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ORIGINAL COMMUNICATIONS.

On the Use of Phosphate of Ammonia in Rheumatism. By H. Hartshorne, M. D., Resident Physician, Pennsylvania Hospital.

Since the publication of Dr. Buckler's article on this subject in the American Journal of Medical Sciences, considerable notice has been taken of it, and with various results in the opinion of different practitioners.

In the Examiner for May, of the present year, a communication appeared from Dr. Voigt, mentioning the use of it in *three grain* doses, with apparently disadvantageous effects upon the digestive apparatus. The experience of the Pennsylvania Hospital, in Dr. Pepper's trial of the medicine as detailed below, is entirely different from this. The smallest dose given to an adult here was ten grains, and in several it reached 30 grains, continued three times daily for a number of days. One of the latter cases required also at times an additional laxative. In two or three cases it did, in twenty grain doses, disorder the alimentary canal; but it appears to me impossible to expect effects of any kind from less than five or ten grains. In these quantities Dr. Ruschenberger (vide last month's Examiner) has tried it with very little benefit.

The powers of the remedy were fairly tested in the Pennsylvania Hospital,—and the result may be deduced from a short statement of each case. It will be seen that it has proved no

pecific, although several of the cases recovered. Additional reatment was used generally,—as Dover's powder at night, the warm bath, cupping, blisters dressed with morphia, and mercurial ointment combined with narcotics, veratria ointment, &c. These may perhaps claim much of the credit of the cures, which were mostly very slow.

James Burns, aged 32, admitted 3d mo. 14th, was put on ammon. phosph. gr. xx., aq. cinnamom. f℥ss, 3d mo. 17th, being three days after admission. He had in two of these days been taking colchicum and magnesia. He was discharged cured, 4th mo. 9th.

James Stewart, admitted 2d mo. 5th, aged 22. Both his arms and both knees were affected. Put on ammon. phosph. gr. xx., with aq. cinnam., 3d mo. 17th, forty-two days after admission. He had in this time been treated first with calomel and Dover's powder, and afterwards with colchicum and magnesia. On the 1st of 4th mo. he relapsed, after having been much better; a blister was put on the painful shoulder, and, when healed up, renewed. This seemed much to quicken his improvement; a third blister was sprinkled with morph. acet. gr. j. p. g. acac. gr. x., which still farther lessened his pain. 4th mo. 15th,—he has little or no pain, his arm is but slightly stiff, and the medicine has been stopped.

Abraham Shepherd, age 51, admitted 3d mo. 16th. One arm only affected, but this made powerless by the attack. He was put upon ammon. phosph. gr. xx. as above, on the 21st of 3d mo., being five days after admission, he having in that time taken first p. ipecac. et opii gr. iv. ter die, and afterwards vin. colch. rad. with magnesia for a short time. By the 5th of 4th mo. he had very little pain, except on motion of the arm affected at the shoulder; but some stiffness is noted as yet (4th mo. 16th) hanging on; treated with passive motion and electricity. About the 8th of 4th mo., however, he complained of diarrhœa, pain and rumbling in his belly, vomiting and loss of appetite. The remedy was then stopped, and in three or four days these symptoms disappeared.

William Curran, aged 9, admitted 3d mo. 21st. Has considerable enlargement of heart; pulse rapid, loud bellows sound. This heart disease has continued probably for some months. His arms and legs were also affected with rheumatic symptoms up to 3d mo. 22. He was then put on ammon. phosph. gr. v., aq. cinnam. ℥ss three times a day. It was suspended about 4th mo. 8th; his articular rheumatism had, before that, entirely left him, though the chronic disease of the heart remained; improved by digitalis and moderated diet.

Thomas Quin, age 46, admitted 3d mo. 25th,—limbs affected

with rheumatism. Began the am. phosph. at once, using at same time, as did most of the others, the Dover's powder at night, and warm bath every other night. 4th mo. 1st he had a blister applied.

4th mo. 11th he went out, *cured.* But on the 18th of the following month he applied to be readmitted, saying that it had returned in his limbs as bad as ever. This, of course, might occur after any treatment, *specific* or not.

Leonard Kretzner, admitted 3d mo. 28th, age 38, limbs considerably affected. Put on ammon. phosph. 3d mo. 30th, after one or two doses of colchicum and magnesia. 4th mo. 3d he had another dose of the same mixture, and this, with the warm bath every other night, was all the adjunct treatment. He was discharged cured, 4th mo. 9th, having been nearly well for a week or two.

——— Cochran, had been for some months under treatment with mercury, &c., in the house, for visceral derangement. His rheumatism presented itself as a fresh acute attack. He was treated for three days with the phosphate of ammonia without any effect; the tumefaction, redness, pain and fever not yielding, and his bowels not being kept open by first gr. xx. and then gr. xxx. of the salt, it was stopped, and under colchicum and magnesia, twenty drops of the wine of the former with a scruple of the latter in mintwater, he gained rapid and permanent relief from all rheumatic symptoms.

Henry Pillsbury, age 30, captain of a vessel, admitted 4th mo. 20th. He was first bled, and treated with colchicum for about a week; then put on the use of hyd. chlor. mit. gr. j., p. opii gr. ¼, three times a day, being purged every few days with Scudamore's mixture of colchicum. He had taken thirty grains of calomel before his mouth was touched, and then was little better than at first.

5th mo. 3d, takes t. colch. rad. gtt. xx., magnes. gr. x. ter die, and has veratria ointment, twenty grains to the ounce, rubbed over his hands twice a day.

5th mo. 5th. Very little improvement. Begins now with ammon. phosph. gr. xx. aq. cinnam. ℥ss ter die. In a day or two he commenced also using the warm bath at night. He takes the Dover's powder at bed time.

8th. Is better. Bowels not open to-day. Increase ammon. phosph. to gr. xxx. ter die.

12th. Little change. Blister to affected foot, dressed with morph. acet. gr. j., p. gum. acac. gr. x. Bowels not open to-day by the phosphate. ℞. Mist. colch. Scud. statim.

13th. Apply to hands ung. hyd. fort. ℥j, ext. hyoscyam. ℥ss.

14th. Ditto to knee. He is now improving.

15th. Thinks himself better, except his hands. Continue ammon. phosph., p. ipecac. et opii nocte, and warm bath.

16th. Hands better.

17th. No pain, though his knuckles are still swollen.

18th. Went out to-day, and says we may put him down cured.

Margaret Murray, age 22, admitted 3d mo. 5th. Limbs affected. Put on phosphate of ammonia, twenty gr. doses, 3d mo. 17th, having for eleven days taken the colchicum and magnesia. She was also cupped along the spine. By the beginning of 4th mo. the pains were leaving her limbs, and soon were transferred entirely to the face, constituting a rheumato-neuralgic affection of the left eye and upper jaw. Belladonna, camphor, &c., were applied, and carbonate of iron given internally for this, the ammon. phosph. being suspended She went out 4th mo. 9th, pretty much cured, and entirely so of the rheumatism of the limbs for which she entered.

Bridget Halfpenny, aged 40, admitted 3d mo. 16th. Put on phosphate of ammonia as above, 3d mo. 19th, three days after admission, having been taking colchicum and magnesia in that time.

She was obliged to suspend the phosphate two or three times on account of diarrhœa with pain which it caused, but went out 4th mo. 11th, having been quite well for a week.

In all these cases, twenty and thirty grain doses of the salt produced some laxative effect upon the bowels,—in one a painful diarrhœa; and in another, diarrhœa, vomiting and indigestion, were brought on after using twenty grains thrice daily for several days. Two patients had very little effect produced upon their bowels. No increase of the urine was, on inquiry, ascertained in any of them.

The phosphate has been used in a dozen or more cases by my father, Dr. Joseph Hartshorne, with such advantage as inclines him to think it may be a valuable addition to our means of treatment of rheumatism, though by no means as a specific remedy.

In the tardiness of cure, and repeated failure among the cases above reported, we see the proof that it has no such peculiarity or certainty of action; and that the plausible theory of Dr. Buckler is as yet unconfirmed. It is a question whether now, if ever, we can hope so clearly to unriddle the subtle chemistry of the animal fluids. But the known acid condition of the secretions in rheumatism, makes alkalies and alkaline salts a natural indication; laxatives are also called for; and this medicine has both these qualities. The degree of success with it, or at least the number of *coincident recoveries*, is also enough to justify more extended trials, although there is nothing as yet to induce us to suppose it can supersede the colchicum.

On the Use of the Matico. By W. S. W. Ruschenberger, M. D., Surgeon U. S. N. Communicated by Professor Dunglison.

U. S. Naval Hospital,
New York, May 27th, 1846.

My Dear Sir,—Since I forwarded to you some notes on matico about a year since, I have used it frequently, and I have heard of its use by some of my friends. As a remedy for gonorrhœa, I do not think it is equal to cubebs. I made an experiment w h it to test its virtues as a styptic. In enlarging a burrowing bubo, I divided the arteria ad cutem abdominis, which bled freely. I directed that an attempt should be made to arrest the hem rrhage by lint and pressure. After a trial of ten minutes, which totally failed, I directed moistened matico leaves to be applied. The assistant reported in a few minutes that the matico exerted no influence, and proposed to secure the bleeding vessel by a ligature. I now visited the patient, who had lost six or eight ounces of blood, and was still bleeding. After coarsely powdering some matico leaves in the palm of my hand, I formed the mass into a paste with cold water; I then removed the clot, through which the arterial blood formed a passage of the size of a crow-quill; the blood flowed per saltam, forming a jet of at least three-fourths of an inch high. The paste was applied lightly with the fingers, and filled the wound. The surrounding skin was immediately sponged clean; the hemorrhage ceased instantly, and not a single drop of blood flowed afterwards. No pressure was used, or dressing applied.

In the first application the entire matico leaf had been simply dipped in water and then applied. It failed, as already stated.

A cupper and leecher in Brooklyn informs me, that he finds the matico, applied as I have described above, to instantly arrest the bleeding of leech-bites in children, which, before he obtained matico, frequently caused him great anxiety. He expressed himself as perfectly satisfied, that there cannot be any difficulty in arresting hemorrhage from leech-bites, where matico can be obtained.

I exhibited dram doses of finely powdered matico in a case of profuse menorrhagia, repeated every two hours. The flow ceased after the third dose. The powder was simply mixed in about two ounces of water. The patient experienced no unpleasant effects from its use.

Those who are desirous of trying the virtues of matico, may obtain the genuine article of Mr. Frederick Brown, Philadelphia.

Dr. J. H. Scrivener, in a letter dated Lima, April 30, 1845, says that matico grows abundantly along the sides of the mountains

of Monobamba and Huanuco in the Department of Junin. There are three species distinguished by the color of their stems, which are red, brown and white. The red species is considered superior to the others, and is brought to Lima in large quantities by Indians, and sold to the druggists. When the Flora Peruana was published, the medicinal properties of the plant were unknown; their discovery is attributed to a soldier who was wounded on the 9th December, 1824, at the battle of Ayacucho.

The plant is very generally used in Lima, and along the coast in cases of hemorrhage, and all kind of ulcers. The leaves are well pounded and then applied to the wound; the vessels contract and the hemorrhage at once ceases. An infusion of the plant is used as a wash for ulcers; and after washing, a small quantity of the powder is applied. It does not appear that matico has ever been employed in Lima as an internal remedy.

There is sufficient evidence in favor of matico to render its properties and medical qualities worthy of careful examination; I say careful examination, because we may be deceived by the results of a few observations and experiments, and be lead to believe what is far from truth. We are too apt to arrive at conclusions without sufficient data; too apt to forget the proverb, "One swallow don't make summer," and hence come many of those facts which are known as *false*.

It is possible that all the medicinal qualities of the matico may be found to exist in its essential oil, which is heavier than a saturated solution of common salt. I am about causing some trials to be made with the article, which I have procured by the ordinary method of distillation.

I am, very truly, and respectfully, your friend,

W. S. W. Ruschenberger.

Dr. Robley Dunglison.

To the Editor of the Medical Examiner:

Below I send you a copy of a letter recently received from my friend Dr. Bell, of Waterbury, Ct., in reply to a letter which I addressed to him in regard to his paper on the "Use of Quinine in Typhoid Fever," published in the May number of the *Examiner*. It sheds further light upon a very interesting question in the therapeutics of a grave form of disease, and I have no doubt that its publication will be gratifying to the numerous readers of your ably conducted Journal.

I am, with great respect, your obedient servant,

Geo. L. Upshur.

Waterbury, (*Ct.*) May 15th, 1846.

Dear Doctor: It is with much pleasure that I answer your communication which came to hand on Saturday last. You ask,

"do you use the term *typhoid* as it is employed by most of the French writers, who make it a synonyme for *dothinenterite;* or simply as most American and English physicians use it, to signify a *low form* of fever?" Although the phrase *typhoid fever* is sanctioned by some of the best writers on that disease, both in France and this country, the name is not sufficiently current to be entirely free from misapplication, and dothinenterite is certainly much more definite and a better term.

I use the term *typhoid* with the same signification as it is used by Louis, Chomel, Andral and others of France, and by Jackson, Bartlett and Gerhard of this country—a *distinct disease*, made evident by the morbid alteration in the glands of Peyer, enlargement of the corresponding mesenteric glands, and frequently enlargement and alteration of the spleen; the common symptoms of which are chills, with or without shivering, and followed by heat and pespiration, usually partial; or hot, dry skin; great prostration; pain in the head, back, and limbs; diarrhœa, with pain in the abdomen; or costiveness; loss of appetite; great thirst; delirium; unrefreshing sleep; difficulty of attention; dizziness; drowsiness; flushed face, with eyes bright and injected, and eyelids weighed down; tinnitus aurium; hacking cough, and a panting snuffing respiration; frequent pulse, sometimes very tense and quick; tongue at first white or yellow; spleen can usually be felt. About the seventh day a majority of patients have an eruption principally confined to the abdomen and chest, composed of a few red papular elevations or pimples, which vanish upon pressure and immediately reappear. One week later there is a different eruption, *sudamina,* about the clavicles, axilla, epigastrium and inguinal regions; epistaxis is common at any stage of the disease, and other hemorrhages are not unfrequent; the tongue grows darker, swollen, glossy at the edges, parched, often cracked, and bleeds, is protruded with difficulty, and there is an inability to retract it except very slowly and carefully; thick sordes collect on the lips and teeth; abdomen becomes tumid and resonant from meteorism, and is often extremely tender, especially in the right iliac region; countenance more suffused, red or purplish, sometimes bloated; brow contracted; sunken, vacant and wild expression; subsultus tendinum, and picking at the bed-clothes and imaginary objects; sliding down in bed; diarrhœa; urine and dejections offensive; involuntary discharges; retention of urine; convulsive movements, or permanent coma; pulse 150 or upwards per minute; facies Hippocratica; sudden development of peritonitis, indicating perforation of the intestine, which is necessarily fatal.

But it is never to be expected that the whole of these symp-

toms will be found in one case, though it is *possible* that they all may occur at once. As to that of the "rose coloured eruption," which you are not alone in considering as a pathognomonic sign of typhoid fever, I believe it to be often wanting in the genuine form of the disease, but I have never seen a case in which it was absent *at the onset or just preceding* tympanitis and resonance of the abdomen with great tenderness, *and during that condition.* This I would have mentioned in my paper had I thought my observation extensive enough to justify such a conclusion. As far as the evidence of my cases go, however, I am induced to think that tympanitis and resonance of the abdomen with extreme pain, rarely occur without being preceded by, or simultaneous with, the rose coloured eruption; and although the eruption may occur without such an affection of the abdomen, it usually exists at the same time and in the same case.

I carefully looked for the eruption in every case published in my paper, but it was absent, nor did any of them have serious affection of the intestines, both of which I think were prevented by the use of quinine. You will find in "Andral's Clinique," Diseases of the Abdomen, case 70, that on account of the extreme debility of the patient on the eleventh day of a typhoid fever, he commenced the use of infusion of Peruvian bark, during the exhibition of which all the bad symptoms disappeared, amongst which were the petechiæ. From an error committed in diet, the eruption reappeared, but it seemed to exercise but little influence over the patient *during the exhibition of the bark.* Now, if such was the effect of the infusion of Peruvian bark, was it not by virtue of the quinine it contained? And if so small a portion acted so beneficially, now that the advantages of giving it in large doses are so well known, is it too much to assume, that the rose coloured eruption, and *that which it indicates*, viz. *serious affection of the intestines*, may be prevented in typhoid fever by a timely and liberal use of the sulphate of quinine?

I desire to test the effects of this remedy still further, before I shall feel entirely satisfied to answer the above interrogatories in the affirmative. If succeeding cases, however, are followed by the same results as those I have published, opportunity being afforded to commence the exhibition of quinine at the beginning of the eruption without the development of any more serious symptoms, I shall then, without hesitation, say, that in typhoid fever, the rose coloured eruption and its usual sequence may be prevented by the proper use of the sulphate of quinine.

I have thus answered, at some length, your questions, and as the same are liable to arise in the minds of others who may have read my article, you are not only at liberty, but it will be my

pleasure, if you deem it of sufficient importance, to send this letter for publication in the next number of the *Examiner.*

Very respectfully, your friend,

A. N. Bell.

To Dr. G. L. Upshur, Norfolk, Va.

On the Uses of the Lobelia Inflata. By Abraham Livezey, A.M., M.D., Lumberville, Bucks Co., Pa.

Observing for several years past the use and abuse made of the lobelia by a numerous horde of quacks that abound in some parts of the country, and perceiving that those dangerous consequences, which have hitherto been attributed to this plant by many of the medical profession, did not result,—and that too when administered by a set of ignorant pretenders, in enormous doses, and almost indiscriminately in all cases,—I studiously applied myself to experimental observation, to ascertain with a greater degree of certainty the therapeutic value of this plant. And during the past year I have had many excellent opportunities of testing and witnessing its beneficial influence over many diseases of febrile and spasmodic character.

In pertussis, combining the tinct. lobel. of which Prof. Eberle speaks so highly, with the acid hydrocyan., extolled by Thompson and Roe, with equal propriety might I vaunt the recipe as a specific, as they do theirs—although such a thing as a *specific* probably does not exist, except it be sulphur for psora. In asthma, especially of a spasmodic kind, the most marked benefits result from the use of this plant singly, or combined as above—the existing disturbance of the nervous fibre of the bronchial surface, or the spasms of the mucous membrane of the bronchia are speedily allayed, and, by a short course, a cure, or a *suspension* of some length at least, is the sequence of its administration.

For an adult,

℞. Tinct. lobel. inflat. ʒi,
Acid. hydrocyan. gtt. 1—11.
Ter quatuorve die.

But if the paroxysm be severe, the tincture may be given in much larger doses, and repeated at short intervals, till entire relief is obtained. By this combination, I have enabled several *inveterate* cases of asthma, (which had been repeatedly prescribed for by various physicians, quacks and old women,) to pass for several months past, with a complete suspension of all their sufferings.

In diphtheritic laryngo-tracheitis, where the excitation of

emesis cannot be readily accomplished, which frequently arises from the nature of the disease as well as the difficulty and unpleasantness in the administration of medicine to infants, this difficulty may be obviated by enemata containing a portion of the tinct. lobel. or pulverized plant, which at once relaxes the system, removes the tension of the chest, changes the seat of excitement to a distant part, and emesis readily ensues; the bowels in the meanwhile are emptied of their contents, and recovery from every distressing symptom immediately follows.

In all cases of coughs, especially when inflammatory symptoms manifest themselves, as in catarrhal affections in children as well as in adults, I consider the tincture of this plant (or infusion, when the stimulus imparted by the alcohol might be objectionable) far preferable to ipecacuanha or the tartrate of antimony and potassa, being more decisive in its effects than the former, and a better and safer nauseant than the latter, without that fear of irritating the gastro-enteric mucous membrane, the pathological condition of which has been too much overlooked by earlier writers, but which is now claiming deserved attention.

This brings me to the consideration of the lobelia inflata in febrile disorders, incident to every section of country, more or less, in summer and autumn. When it is desirable (as in fact it is always so) to lessen vascular action, and as a febrifuge, the "nitrous powders" sink into utter insignificance in comparison with this plant, which is not liable to the same objection as the tartarized antimony used in combination with calomel and the nitrate of potassa by many of the older practitioners, which too frequently increases that tenderness and erethism already existing in the mucous membrane of the stomach and intestines.

In high vascular action, also, with cerebral disturbance, when the application of cups to the nape of the neck, &c., fails in restoring rationality to the sensorium, the most admirable results follow the administration of an enema, largely composed of the lobelia; or when accompanied with enervation and subsultus tendinum, the efficacy of the enema will be much enhanced by the addition of a portion of pulv. valer. and tinct. capsicum or camphor, which when thus combined produces a powerfully revellent action, changes the scene of excitement, and leaves the cerebral functions free.

Finally. In strangulated hernia, or in reducing dislocations of the larger articulations, where great relaxation is necessary, a powerful enema of the plant, or of the bruised seeds, will fully answer the expectation of the medical attendant—attended too with equal benefit and much more safety than the tobacco injection used in the former difficulty, and will dispense with venesection, the tartarized antimony, and generally the hot bath,

so universally recommended to overcome the rigidity of the muscular fibre.

These are the chief diseases of importance in which I have administered the lobelia inflata with entire satisfaction, and with a relief so prompt and decisive, as at once both astonished and delighted the patient.

BIBLIOGRAPHICAL NOTICES.

Fevers: Their Diagnosis, Pathology, and Treatment. Prepared and edited, with large additious, from the Essays on Fever in Tweedie's Library of Practical Medicine. By MEREDITH CLYMER, M. D., Pro essor of the Principles and Practice of Medicine in the Franklin Medical College of Philadelphia, etc. etc. 8vo. pp. 604. Lea & Blanchard; Philadelphia, 1846.

The essays on fever contained in Tweedie's Library of Practical Medicine, as is well known, are the productions of several different authors. These, collated with recent authorities, including essays and notices in the journals, together with frequent comments and additions, and a chapter of thirty odd pages on "*typhoid fever*" by Dr. Clymer, constitute the present publication. A work so made up, must necessarily be exceedingly heterogeneous in its character. No unity of general principles, whether of pathology or therapeutics, is to be expected. As each writer, however, treats the subject after his own fashion, the various essays afford materials for instructive enquiry and comparison, which, to thinking minds, may well compensate for the distraction occasioned by the unharmonious whole.

The various essays contained in Tweedie's Library, which, we have said, constitute the basis of this publication, have been long before the profession, and have been extensively noticed and commented on in the journals, and are therefore scarcely subjects for criticism at the present time; while the additions by the editor, under each head, although evincing much careful enquiry and judicious selection, being for the most part references

to statements and opinions, often very discordant, equally forbid such an examination. On every subject discussed, much valuable information is given, which may be profitably studied by all whose duty it is to treat such complaints, and if space permitted, we should be tempted to extract numerous examples for the edification of our readers. One or two, however, must suffice.

The frequent prevalence of puerperal fever, of late years, in our lying-in hospitals and large cities, and the great mortality attending upon it, have rendered it a subject of peculiar interest to the American practitioner—an interest much enhanced by the ultra, exclusive and opposite views maintained by writers and teachers of the highest authority. On this account, we shall extract a very few remarks from the essay on that subject contained in this publication written by Dr. Locock, merely premising that Dr. L. is a gentlemen of great experience in his profession, whose high reputation has caused him to be selected as the physician-accoucheur of her Majesty, Queen Victoria.

"On perusing the numerous treatises that have been published within the last half century on this highly important class of diseases, the reader must necessarily be struck with the very extraordinary differences of opinion amongst the several writers as to the history and nature of the disease, the symptoms, mode of treatment, and the result of the practice adopted. The only point on which all seem to be agreed is, its great and striking fatality, and that it is one of the most serious, intractable, and destructive maladies to which puerperal women are liable.

"What is of practical importance in these different histories may be easily reconciled, without attributing to any of these authors erroneous statements or wilful perversions. They have each described what they saw, fairly and completely, and the same difference of opinion as to the nature of the disease exists to the present day. The confusion has arisen chiefly from considering that every form of fever to which puerperal women are liable is necessarily the same, the truth being that they vary in their nature and treatment as much as other kinds of fevers. With this precautionary consideration there can be no reasonable objection to the term '*puerperal fevers*,' which has so often been caviled at and attempted to be reformed. All the other names which have been substituted are liable to objection, as assuming some particular structure to be invariably attacked with disease, whereas the local affection is by no means uniform; and hence

the term 'puerperal peritonitis,' 'peritoneal fever,' 'inflammation of the uterus and its appendages in puerperal women,' will be apt to mislead. The name '*puerperal fevers*,' compromises no opinion; it does not necessarily imply the existence of idiopathic puerperal fever, a doctrine now so much disputed; and whatever may be our own view of the subject, we beg distinctly to state, that in selecting this name we only wish to use one most easily understood and generally recognized.

"From our own researches into the writings of others, and from personal experience, both in private practice and as attached for nearly eighteen years to a very large lying-in hospital, we are inclined to doubt the propriety of considering puerperal fever as merely symptomatic of *local inflammation*. But if this were admitted, we have records of so great a variety in the seat of the inflammatory action, as proved upon dissection, that it will be found impossible to select any one part as peculiarly affected. We find in other fevers a liability to particular local lesions, equally varying; the brain, the chest, the mucous membrane of the stomach and bowels, have been, in different epidemics, the seats of the disorganizing process; but it has been too much the fashion to put down all the morbid appearances as exclusively the cause, and not the result, of the constitutional affection. In considering puerperal fevers it has long been our conviction, that what has been called by SYDENHAM *the constitution of the year*, has been too much lost sight of. The great difference in the accounts of puerperal fevers by different writers is thus easily explained:—They have seen and described epidemics differing in their type, their local accompaniments, and their power of being influenced by remedies; and hence, honestly stating exactly what they saw, we have an explanation of what would otherwise appear contradictory. That the fevers of puerperal women are much influenced by the character of the other fevers of the season, was strikingly exemplified in the Westminister Lying-in Hospital during the spring of 1838, when some of the fatal cases were attended by eruptions precisely similar to the *spotted* fever, which was so prevalent at that time in the London Hospitals.

"In the spring of 1822 puerperal fever existed in the Lying-in Hospital in two very different and well-marked forms, at an interval of about six weeks between the last case of the first epidemic and the first case of the second. The early cases were of an active inflammatory character; the peritoneal covering of the uterus and intestines was chiefly affected; the albuminous and serous effusions in the fatal cases showed a sthenic state of the system; that is, the serum was clear, the coagulable lymph firm and white; the patients bore blood-letting and other active treatment to a great extent fairly, and with much advantage; the blood

drawn was strongly cupped and highly buffed, and the fatal cases were few. Six weeks afterwards a very different epidemic was found to exist. The same remedies which had been so beneficial a few weeks before were naturally at first tried, but their bad success confirmed the sagacious remark of GOOCH, that 'the effects of remedies form not only an essential but the most important part of the history.' (GOOCH *on Peritoneal Fevers*, p. 35.) The fever was attended with marked oppression and debility; the local pain was comparatively slight; the pulse was extremely rapid from the first, with no force, and easily compressible; in many of the cases purulent deposits took place in the joints and in the calves of the legs, and in one case there was destructive inflammation of the eye. On dissection, a quantity of fetid, dark, turbid serum, with loose and soft shreds of dirty lymph, was found in the peritoneal cavity, with a large collection of highly offensive gas. In some the substance of the uterus and ovaries was infiltrated with pus, especially in those cases where there had been purulent deposits in the limbs. It was shortly after these cases occurred, that attention was directed by Dr. MARSHALL HALL to some similar cases of purulent deposit and destruction of the eye after parturition, (*Med. Chir. Trans.*, vol. xiii. part 1,) and which were the first series of cases published in this country of that nature, although some isolated cases had been previously noticed, which had been looked on as accidental complications. In these two epidemics, so striking a variety of character could not fail to attract attention, and we shall shortly have occasion to notice others; and yet Dr. ARMSTRONG quotes with approbation the following sentence from Dr. HULME :—'The operations of nature upon the human frame in this disease are the same in Britain as in Greece, and continue the same at this day as they were above two thousand years ago. This is likewise a clear proof of the IMMUTABILITY of puerperal fever.' (ARMSTRONG, p. 63.) In our opinion the puerperal fevers vary, as other fevers do, according to the season, local symptoms, the effects of remedies, and in the organs affected. We shall not trace the history of the numerous epidemics which have been recorded; but referring those who are desirous of acquiring such information to the more extended publications on puerperal fever, proceed to give a plain and practical account of those forms of the disease which are met with in hospitals and private practice, cautioning young practitioners to reflect, that as these epidemics have already so much varied, new varieties may again be found: and that it is advisable, especially for those who have the charge of lying-in hospitals, to watch closely and anxiously the first cases of the season, both as to the symptoms, and as to the effects of remedies, before deciding on the character of the disease. A

minute and searching investigation into the morbid appearances of the fatal cases is no less necessary, for there is fair reason to suppose, since the publication of the cases of inflammation of the veins, absorbents, and muscular structure of the uterus, by Dr. ROBERT LEE and others, that formerly those peculiar affections may have existed and yet escaped observation. It is to Dr. ROBERT LEE that the profession in this country is principally indebted for a much more extensive and complete investigation into the morbid changes produced in the course of this disease. But though agreeing with him to a certain point, and not doubting that in many, perhaps most of the cases formerly known as the low or malignant form of puerperal fever, the fatal symptoms have arisen from disorganizing inflammation of the deeper seated tissues of the uterus or its appendages, or from phlebitis, these changes having been overlooked in dissection; yet Dr. LEE has in our judgment made a material omission, and one very common at the present day, in passing over the influence of the nervous system in these cases; the vascular system is held to be all in all, everything is inflammation, and the powerful effect of altered nervous energy in the production of disease is lost sight of."

Consistently with these views, the author recommends a treatment adapted to the circumstances of each individual case, having regard to the character of the prevailing epidemic, and the effects of the treatment employed. General and local bleeding, fomentations, with mercury and opium, if there be unequivocal symptoms of inflammation with vigour, with an avoidance of general bleeding, and a greater reliance on local and tranquillizing means in adynamic cases.

Thirty years experience in the treatment of puerperal diseases, in hospital and private practice, has satisfied us of the justness of these views. The notion of Armstrong and others of the "*immutability of puerperal fever,*" *has done incalculable mischief.*

As we have said, nearly one half of the matter in the present volume is from the pen of Dr. Clymer. These contributions are scattered throughout the work, and are either thrown into the body of the text or in foot notes, and always in brackets to distinguish them from the original.

On the subject of *Typhoid Fever*, Dr. C. has given us, as has been stated, a separate chapter of more than thirty pages, in which he has carefully embodied the views of American authorities.

"Typhoid Fever, [he observes,] is an acute affection, whose anatomical character is an enlargement and special alteration of the intestinal follicles, accompanied by increase of volume, injection, softening, and occasionally suppuration of the corresponding mesenteric gland."

The inference from this language would seem to be that Dr. C. regards this form of fever to be merely symptomatic of the intestinal lesions,—a position maintained by some modern writers, but as we believe without foundation,—such, however, as we glean from other passages, is not his opinion, but on the contrary, he looks upon it as "*an essential fever.*"

The assumption by our author, after Littré and others, that the disorder of the glands of Brunner and Peyer, constitutes the "*anatomical character,*" may be well enough, as indicating that such a condition *generally* occurs; but this should not cause us to lose sight of the important fact noticed by Andral and other good observers, that it is sometimes absent, while softening of the liver, parietes of the heart, inflammation and ulceration of the mucous membrane of the bowels, all occur so frequently as to almost justify us in including them as anatomically characteristic of the disease; still less should we forget that these lesions occur in the progress of the fever, and are therefore concomitant or consequential, and not causative. And yet, in treating of the "identity of typhus and typhoid fever," Dr. C. assumes the existence of a diseased condition of the glands of Peyer and Brunner as the "distinctive or pathognomonic trait," as being "necessary to constitute the disease;" which, if typhoid fever may exist and run on to a fatal termination without any such manifestation, as Andral has reported, and as we have ourselves seen, then such a condition of these bodies is not "necessary to constitute the disease."

These expressions, taken in connection with the fact that the follicular derangements are not mentioned among the "secondary lesions," are certainly calculated at first view to cause the belief that Dr. C. looks upon typhoid fever as symptomatic rather than idiopathic or essential in its character.

Recent analyses of the blood show an altered condition of this fluid to be quite as constant a condition in typhoid fever as the follicular lesions to which so primary a regard has been had.

In relation to the "identity of typhus and typhoid fever," Dr.

C. is at issue with some of his countrymen as well as Europeans. His concluding remarks on this subject are as follows:

"We would inquire whether the group of symptoms known as typhoid fever is perfectly identical at all times and at all places; and further, if the essential characters of typhus are so constant or defined, that it can be taken as a fixed term of comparison? Do not epidemics of typhoid fever differ in their prominent phenomena, constantly from sporadic cases, as well as from each other? Are there not a number of accessory circumstances, so subtile as to escape observation, perpetually modifying the influence of causes on the organism? General conclusions should not be drawn from limited observations, or from witnessing any disease so generally prevalent as the one under consideration, in a single district, or even country, and during a limited period of time. And we cannot avoid thinking that those who regard these two forms of fever as distinct and separate *species*, are premature in the expression of an opinion upon a subject in which there are, as yet, wanting many essential elements to warrant a positive judgment."

Giving up the doctrine of a difference in identity of typhoid and typhus fever, is surrendering the point that follicular alteration constitutes the "anatomical character," or "distinctive pathognomonic trait" of the former, as no one contends for such anatomical character or "distinctive pathognomonic trait" in the latter of these diseases.

Dr. C. has evidently been most cautious in his efforts to avoid committing himself on the identity of *typhoid* and *typhus* fever, and in doing so, it appears to us, has sometimes expressed himself ambiguously.

We have not the time at present, nor is it our desire to enter into a full discussion of the mooted points contained in the present volume, and especially the subjects to which we have more particularly referred, and we here close our remarks with the expression of our thanks to Dr. Clymer for the large amount of useful matter he has added to these valuable dissertations.

Five Dissertations on Fever. By GEORGE FORDYCE, M. D., F. R. S., Fellow of the Royal College of Physicians, Senior Physician to St. Thomas's Hospital, etc. *Second American Edition, with an Introduction.* 8vo. pp. 403. Ed. Barrington and Geo. D. Haswell. Philadelphia, 1846.

Dr. Fordyce, although not by any means an elegant writer, was an industrious contributor to medical literature. The most celebrated of his productions are the dissertations before us, and on them chiefly must rest his claims to present and future fame. Since they were composed, however, a better acquaintance with minute anatomy and the modifications of structure proceeding from disease, as well as the light shed on pathology by an improved knowledge of animal chemistry, have materially changed the views generally entertained of the etiology and essential characters of the different forms of fever, and, as a consequence, the treatment also. A greater reliance on the sanative powers of the system, and less on the use of perturbating remedies, may be said to characterize the modern practice as conducted by well instructed therapeutists. In this respect, our author may be said to have been in advance of his contemporaries. His antimonial treatment may be adduced as evidence of the correctness of this remark. The administration of the article in very minute quantities with a view to its alterative effect, instead of decided doses, as practised by others, was an improvement in practice, although proceeding from a questionable hypothesis. While other disturbing agencies were thus avoided, the remedy employed was in amount scarcely sufficient to interfere essentially with the natural course of the recuperative powers.

From these remarks it will be perceived, that although we accord to Fordyce much credit for his observations on the important class of diseases which constitute the subjects of these dissertations, we cannot receive them as entirely up with the present advanced state of our knowledge, or in any wise superseding the more recent works of authors on the same topics; still, the publishers have done an acceptable service to the profession in republishing them, and so enabling all who wish to store their libraries with standard authorities to possess them-

selves of a well printed copy, which is also enriched with an introductory chapter by the American editor.

A Dictionary of Medical Science, containing a concise account of the various subjects and terms; with the French and other synonymes; Notices of Climate, and of Celebrated Mineral Waters; Formulæ for various Officinal and Empyrical Preparations, etc. By Robley Dunglison, M. D., Professor of Institutes of Medicine, etc., in Jefferson Medical College of Philadelphia. *Sixth Edition. Revised and greatly enlarged.* Royal 8vo. pp. 808. Lea & Blanchard. Philadelphia: 1846.

The Dictionary of Professor Dunglison might, without any great stretch of propriety, be called a Cyclopædia of Medical Science, so comprehensive is it in its scope and so minute in its details. In this respect it possesses a great advantage over its contemporary publications of the kind. Whatever one may expect to meet with in a dictionary of terms, he is pretty sure to find in its ample pages, besides a vast deal of matter not commonly embraced in medical lexicons, and not readily found in other publications. Another great advantage is, that, from its rapid sale, and not being stereotyped, the author is enabled in the successive editions not only to supply any deficiencies, but to keep up with the rapid march of medicine and the collateral sciences, by embracing all the new terms rendered necessary or popular by the constant improvements going on. The same care and industry in posting displayed by the author in all his other publications, are evinced in this; of which some idea may be formed from the fact, that although but two years have elapsed since the last or fifth edition of the work came from the press, yet the present "comprises nearly *two thousand five hundred* subjects and terms not contained in the last." Many of these, as the author remarks, have been introduced into medical terminology in consequence of the progress of the science; and others had escaped him in previous editions."

Address to the Graduates of the Philadelphia College of Pharmacy. Delivered April 15th, 1846. By Joseph Carson, M. D., Professor of Materia Medica and Pharmacy. *Published by request of the Board of Trustees.*

Philadelphia, we believe, is the only place on the continent of America where a College exists for the special cultivation and teaching of pharmacy, and it is to this circumstance that her druggists and chemists owe their acknowledged superiority in the science and practice of their professions. The address of Professor Carson inculcates a proper feeling and right appreciation of the value of their pursuits on the part of the young pharmaciens to whom he addressed himself.

The Trustees did wisely to request the publication of the address, which, within the brief space of fourteen pages, contains many useful hints and much apt counsel that should be constantly before the minds of their junior brethren.

A popular Treatise on the Diseases of the Teeth, etc., etc. By Robert Arthur, D. D. S., member of the American Society of Dental Surgeons, etc., etc. 12 mo. pp. 187. Lindsay & Blakiston, Philadelphia: 1846.

In a former number we noticed the New York edition, published in 1845, of this popular treatise on Dentistry. It is a good manual, and comprises all that is really necessary for the general reader and practitioner of Medicine to know on the subject, and being written in a plain and perspicuous style, without the unnecessary use of technicalities, is adapted to readers of every class. The Philadelphia copy is in a handsome cloth cover, and presents quite a neat appearance.

The Young Stethoscopist, or the Student's Aid to Auscultation. By Henry L. Bowditch, M. D. 12mo. pp. 278. New York—J. & H. G. Langley: Boston—William D. Ticknor & Co. 1846.

This is an exceedingly clever little work—clear, concise, and to the purpose. We know of no work on the subject better adapted to the wants of the student who is just beginning the study of auscultation.

THE MEDICAL EXAMINER.

PHILADELPHIA, JULY, 1846.

ALTERATIONS OF NAMES.

It is amusing to witness the mutations which proper names experience in going the rounds of the journals. In "Braithwaite's Retrospect," for example, we have an article on the use of Creosote in Ophthalmia, &c., by *Dr. Zanesville*, who, we suppose, is *Dr. Hildreth of Zanesville;* his communication doubtless passed into the French journals, and from them into the English, with the name thus strangely *estropiée.* An analogous case we have in that of Dr. Perry of Philadelphia, who wrote an article for Dunglison's "American Intelligencer," in 1838, on the use of Chloride of Silver in various diseases. This article was extensively noticed, as every curative agent is sure to be, which is brought forward with high encomiums, no matter whether well or ill founded, and amongst others in the French journals, where Dr. Perry's name underwent the slight change into *M. Perri;* and as *M. Perri*, it is cited back in one of our standard works. Again, in the "*Annuaire de Therapeutique, of Bouchardat,*" for 1845, there is the following caption to an article: "*Colchicum: Remarks upon its employment against the gout*, (*Bentley.*) After which we are told that *M. Bentley Tood* has inserted in a treatise on the gout several remarks worthy of attention in the employment of colchicum,"—both *M. Bentley*, and *M. Bentley Tood*, being *Dr. Bentley Todd!*

These ridiculous and inexcusable errors are occurring constantly; but far more frequently with our Gallic brethren than with others.

HIPPOCRATES AND GALEN.

Some time since, we mentioned that the writings of these eminent fathers in medicine were about being rendered into English, by the venerable John Redman Coxe, M. D. We now have the pleasure of announcing that the work is in press, and will be published, "epitomized and rendered into English," in one large octavo of from seven to eight hundred pages, early in August next.

We venture the prediction that, when the volume appears, it will be found that these ancient practitioners were familiar with many things now deemed *new discoveries*, by some, too, who are not classed with superficial readers. The great learning and accuracy of the translator, affords a sure guarantee that the work as it comes to us will be a faithful representation of the originals.

ANNUAL CONVENTION OF THE CONNECTICUT STATE MEDICAL SOCIETY.

In the State of Connecticut, the members of the medical profession are organized into County Societies, and these again constitute a State Society, which holds annual conventions. The assemblage of so large a number of the profession is always fruitful of interest, and when their proceedings have the force of law, as in our sister state, they become all the more important.

The Convention for the present year was held at New Haven on the 13th and 14th of May last. From the published proceedings, for a copy of which we are indebted to the Secretary, Dr. Russell, we learn that the following gentlemen were elected officers, viz:

Archibald Welsh, M. D., President.
Dyer T. Brainard, M. D., Vice President.
V. M. Dow, M. D., Treasurer.
Gurdon W. Russell, M. D., Secretary.

At the Convention a number of gentlemen were elected Fellows of the Society, and various matters transacted. Among other things, the following resolution was adopted, viz:

"Resolved, That the county meetings have power to appoint one delegate each to the National Medical Convention, to be holden in Philadelphia, on the first Wednesday in May, 1847: and they are hereby requested to make such appointment, and make return thereof to the Secretary of the State Society."

It is customary at each Convention to appoint a member to read a dissertation at the succeeding Convention. On the recent occasion, Thomas Sill, M. D., read a paper entitled, "Observations on Typhus Fever," which is published with the proceedings of the Convention.

Dr. Sill, from his own experience, which appears to have been considerable, thinks that the *typhoid* and *typhus fever* of Louis, Bartlett, and others, are "one and the same disease, differing only according to accidental circumstances, such as the *constitution*, *temperament*, or *habits* of the patient, severity of the attack or malignancy of type."

In reference to the pulse in this disease, the "dissertator" remarks:

"Bartlett and others say, that irregularity of the pulse is rarely found. My experience leads me to differ materially with them on this point; for with two or three exceptions, I have ever found a peculiar irregularity of the pulse, and that early. This irregularity is hardly describable, and yet it is distinct, and, so far as I have observed, peculiar to this form of disease. The pulse usually steadily increases in frequency in the fatal cases, until death, or remains stationary until a decided crisis, and the patient convalesces. And I would here remark, that in a heavy case of typhus fever, no one symptom is better calculated to give increased hope for the patient, than a decrease in the frequency of the pulse." The author is opposed to bleeding and other evacuant remedies, even in the early stage of the disease, and counsels an early resort to tonic and sustaining means.

ASIATIC CHOLERA.

Within the last two or three months, we have had various rumours of the reappearance of the cholera in Asia and the North of Europe, extending over and crossing a portion of the Russian territory. A late number of the London Globe contains the following paragraph in relation to it, which is the latest information on the subject:--

"We have already stated that the cholera had made its appearance in some of the provinces of Persia, carrying death into the principal towns. It has spread from Bokhara to Herat and Meshid, and has now taken the direction from the Caspian Sea to Teheran and Ispahan. Late accounts from Odessa state, that it had crossed the Russian territory and appeared suddenly at Tiflis, taking a northerly direction between the Caspian and Black Sea. On the other side the cholera broke out unexpectedly at Orenbourg, in the mines of the Ural mountains; it crossed the Volga, and set its foot in Europe, at Cassan, only 2000 kilometres from St. Petersburgh. If the accounts we have received are exact, it has taken a most irregular direction. It has advanced from west to north, and does not seem to have followed the banks of the river, as in 1828 and '32. The cholera which devastated France in '31 and '32 had been raging in Persia seven years, 1823 to '30. It first appeared in 1823 at Orenbourg, and shed death around that town for five years. It reappeared at Orenbourg in 1829, and one tenth of the population fell victims. It broke out at St. Petersburgh in July, 1831; and in France in October of the same year."

RECORD OF MEDICAL SCIENCE.

On the perceptive power of the Spinal Chord, as manifested by cold-blooded animals. By GEORGE PATON, M. D.—Physiologists have divided the movements of the animal economy into voluntary and involuntary. The former order comprises all those movements that are under our power and control; the latter, those that take place without our will, and independent of our agency. But a voluntary movement may be either of a spontaneous character, that is, it may originate in the mind from a particular train of ideas, and independent of any external stimulus operating to suggest it; or it may depend on an impression produced on the surface of the body, exciting the individual to the performance of the action, as when we withdraw a limb from any irritation to which it is exposed. But in both cases there is the utmost freedom in the movement, and every element essential to constitute it voluntary. In the one case, the mind is incited to the action by a train of thought connected with sensations and emotions which we had already felt and experienced. In the other, the stimulus, being immediately present to the senses, produces a feeling or emotion which leads to the performance of the action. It thus appears that the principle which constitutes an action voluntary is not the manner in which it is excited, but the mode in which it is performed,—a fact which will enable us more clearly to understand the nature of the movements performed by animals after removal of the cerebrum, and see how far such phenomena indicate sensation and the power of voluntary motion in an animal; or are to be accounted for, as maintained by some physiologists, on the principle of a reflex or excito-motory action of the spinal chord.

As this is a question which involves general principles of great importance in reference to the functions of the nervous system, we shall, in determining the nature of the phenomena observed, endeavour to show, according to the strict and philosophical import of the terms, that not merely sensation but perception enters into the character of the movements,—an indubitable proof that the animal can exercise control over its muscles, or has the power of regulating its movements to the attainment of a definite object.

"Sensation is a name given by philosophers to an act of mind, which may be distinguished from all others by this, that it hath no object distinct from the act itself." It is simply expressive of the pain or pleasure felt by the individual at the moment, but has no reference to the cause or irritation that produces it. When I say that I am suffering pain, I speak of a mere feeling or sensation of the mind, without relation to any external object or source from which the pain originates. And this is all that is to be understood by the term sensation. It is expressive of the state of mind, or manner in which I am affected at the moment, but nothing more,—in which sense, sensation and feeling are of exactly the same import.

But sensation is often employed, in a different sense, to signify the knowledge we have of an external impression by the sense of touch; and this meaning is more frequently attached to the term in accordance with the important discovery, that the spinal nerves consist of a sensory and a motory portion,—the former being employed to convey the impression to the medulla, and the latter to convey it from it, or to the parts to which it is distributed. As when we state that we consider an animal is possessed of sensation from the particular movements which it performs in response to a stimulus. But in strict and philosophical language, this use of the term implies not merely the sensation excited in the mind, but the knowledge and recognition of its cause, or the exercise of perception. Accordingly we find Mr. Stewart, in his Elements of Philosophy, drawing the distinction most accurately between these two principles. "If I strike my hand," says he, "against a hard object, I naturally say that I feel pain in my hand. The philosophical truth is, that I perceive the cause of the pain to be applied to that part of my body. The sensation itself I cannot refer in point of place to the hand without considering the mind to be spread over the body by diffusion." And the sentiments of Mr. Mill, one of the most recent writers on this subject, are of similar import. "When a stone lies before me I am conscious of certain sensations which I receive from it; but when I say these sensations come to me from an external object which I perceive, the meaning of these words is, that, receiving the sensations, I intuitively believe that an external cause of these sensations exists. Dr. Reid also, in his Essays on the Powers of the Human Mind, gives the same definition of the terms. "I shall conclude," says he, "by observing, that, as the confounding our sensations with that perception of external objects which is constantly conjoined with them, has been the occasion of most of the errors and false theories of philosophers with regard to the senses; so the distinguishing these operations seems to me to be the key that leads to the right understanding of both."

"Sensation taken by itself implies neither the conception nor belief of an external object. It supposes a sentient being, and a certain manner in which that being is affected, but it supposes no more. Perception implies an immediate conviction and belief of something external, something different both from the mind that perceives, and from the act of perception. Things so different in their nature ought to be distinguished, but by our constitution they are always united. Every different perception is conjoined with a sensation that is proper to it. The one is the sign, the other the thing signified."

Perception, then, may be defined to be that act of mind which consists in the recognition of an external object, or of an impression produced upon the surface of the body, or the extremities of the nerves by which the various sensations are excited in the mind. And in this sense every source of irritation distinctly recognised becomes an object of perception.

It will thus appear, if we attend to the nature of this operation of the mind so clearly stated by these philosophers, that in every irritation applied to the body there are two things that take place intimately con-

nected, but nevertheless perfectly distinct; 1*st*, there is a sensation produced: 2*d*, there is a perception of its cause, or recoguition of the source from which it proceeds; and it is of the utmost importance to keep this in view in every inquiry of this nature, as it enables us to obtain a precise and definite idea of the nature of the phenomena observed, and to understand the real import and meaning of the terms employed to describe it.

It is also perfectly apparent, according to this definition of the subject, that in judging of the character of the movements of an animal, we must have evidence of perception in the movement before we can determine that the animal is possessed of sensation. For the particular movements of an animal are the signs by which its feelings are manifested to us, just as language is the sign or symbol which expresses the sentiments of man. It is because we observe an animal appear to take cognisance of the stimulus, and endeavour to avoid the irritation to which it is exposed, that we consider it is suffering pain. But in this there is the exercise of perception, or, as it has been termed, design and adaptation in the movement.

And in perfect accordance with these views of philosophers, physiologists recognise a distinct class of muscles, termed the muscles of voluntary motion, engaged in the performance of these movements, and of all those that manifest the will and intention of the animal; as the act of walking, leaping, running, the various and combined movements of the limbs, of the larynx, &c. These muscles are formed capable of a variety of movements, and rendered subservient to the will, evidently for the express purpose of making known our feelings, sentiments, and emotions, and every definite action performed by them must depend on the will and determination of the animal, as there is nothing in the structure of the parts to secure one particular movement in preference to every other. When we, therefore, witness design and adaptation of means to ends in movements performed by this class of muscles, as when an animal, on the application of a stimulus, raises its foot to the part of its body that is irritated, and endeavours to push away the instrument, it clearly indicates perception, or that the animal takes distinct cognisance of the stimulus, and as the movement is specific in its character, the principle on which it depends is not that the impression on the afferent nerve, on being conveyed to the medulla, is merely reflected by the afferent nerve, which constitutes reflex action. But here the impression produced on the afferent nerve gives rise to a distinct act on the part of the animal, by which, through the medium of the motor nerve, its feelings and perceptions are manifested to us. And there may be no immediate connection between the roots of these nerves or that which conveys the impression to the medulla, and that by which the movement is effected, as when an animal, on the integuments of its head being irritated, raises its hind foot to the part to remove the source of irritation.

On the other hand, in the involuntary movements of the body, as the acts of respiration, deglutition, sneezing, coughing, contraction of the iris, &c., there is no evidence of perception nor of any determinating

power being exerted on the part of the animal, and consequently no proofs of sensation. For the parts are constructed in adaptation to the particular function which they perform and the action limited to the attainment of that end. Hence the movement always takes place in the same manner, without change or variation, and affords no evidence of design on the part of the animal, or of being subject to our power and control. Still there is evidence of design and adaptation of means to ends in these movements, as appears in every part of the beautiful structure of the animal economy; but it is design inherent in the structure of the part, and not dependent on the will of the animal. For the parts are so framed and constituted as to perform a specific function, by contracting on the application of a particular stimulus, and all that is necessary to excite these acts is, that each appropriate stimulus be applied to the extremities of the nerves, as light to cause contraction of the iris, &c. When we have a series of movements produced that are always performed in the same manner, each successive act being a repetition of that which preceded it. And the principle on which this class of movements depends is that of reflex action,—the impression on the afferent nerve, on being conveyed to the medulla, being immediately and independent of the will reflected by the afferent nerve, when a distinct set of muscles are thrown into action, and a specific function accomplished.

Hence in this class of movements, partaking of an involuntary and reflex character, the design being dependent on the structure of the part, gives no evidence of perception; and so far as these functions are observed in animals subjected to experiment, they could not enable us to determine the existence of sensation. But from what we feel in ourselves it is evident that several of these movements are essentially dependent on sensation, as the acts of sneezing and of coughing, so that it appears that several of the reflex movements of the body are intimately connected with the sensory tract of the spinal chord.

It would thus appear, 1*st*, that it is only in movements that are under the distinct control of the animal, performed by what are termed muscles of voluntary motion, that we can have any evidence of perception, as the involuntary and reflex movements give no indication of it; 2*d*, that the real and essential difference between a voluntary, and an involuntary, and reflex movement consists in the manner in which the motor nerve is excited, and not in the circumstance whether or not sensation may be produced by the stimulus applied to the incident nerve. For whilst we readily admit that many reflex movements take place totally unconnected with sensation, it is equally evident that in some most important movements of the animal economy, in which the action is distinctly reflex, sensation is excited by the irritation of the incident nerve, as in coughing, sneezing, &c. From which it would appear that these particular acts of reflex movement are connected with the sensory columns of the spinal chord.

II. From these preliminary observations, we shall proceed to inquire more particularly into the functions of the spinal chord; and ascertain if the phenomena manifested by animals after removal of the cerebrum or

brain afford proofs of sensation and perception; or accord with the theory that the spinal chord is exclusively devoted to the functions of a reflex system of nerves, termed the true spinal system.

And in entering on this part of the inquiry, it will be proper to observe, that in physiology we cannot establish a general principle without the evidence of specific facts. In mathematics and natural philosophy we can arrive, from certain given data, with the greatest precision, at other ulterior truths; but in physiology, which is an inductive science, founded on observation and experiment, we cannot establish a general doctrine without having ascertained particulars. And this principle is the more necessary to be attended to, as it seems not unfrequently to have been lost sight of in researches into the structure and functions of the spinal chord.

We may also observe that, in eliciting the truth on this subject, we must reject every attempt to settle the question by any reasoning *a priori* concerning the nature of mental phenomena, as that a perceptive act must necessarily require the cerebrum for its development. This we need scarcely say is a *petitio principii* of the question, taking for granted the thing required to be proved. We can only determine the functions of the nervous system by the nature of the phenomena observed, for we must proceed in this, as in every inductive science, to found our views on a rigid induction of facts. And if these be clearly established, the doctrine must be admitted, as it rests on incontrovertible data. But if not, it must be considered a mere hypothesis destitute of proof.

How, then, do the facts ascertained, with regard to the functions of the nervous system, or the view at present maintained respecting the structure and functions of the spinal chord, correspond with the principles of inductive science? It is laid down by the supporters of an excito-motory system, that the spinal chord consists of two sets of nerves, one of which is connected with the central or cineritious portion of the chord, and ministers to the reflex movements of the body, termed the true spinal system, because it is considered to terminate in the spinal chord, and to have no connection with the cerebrum; and that there is another set of nerves connected with the cortical or medullary portion of the chord, and terminating in the cerebrum, which organ they consider the centre of this system of nerves, and the cause of all sensation, perception, and volition manifested by an animal. But this theory has not been confirmed by observations on the structure of the spinal chord. It has not been demonstrated that there is one set of nervous fibres connected with the cineritious portion of the chord, on which the reflex movements depend; and that a distinct set of fibres is connected with the medullary portion of the chord, and exclusively devoted to the senso-volitional movements of the body. And unless this be established, the theory cannot be considered as founded on the principles of inductive science.*

* "The microscope does not confirm the opinion of E. H. Weber, Bellingeri, and Grainger, that some fibres pass straightway to the central substance of the chord."—Mr. Paget's Report, Brit. and Foreign Med. Rev. Messrs.

But it is principally on physiological grounds that the theory has been supported,—on the movements observed in animals after removal of the cerebrum, or where the influence of the brain has been intercepted from a particular portion of the chord. But we maintain that these phenomena do not establish the theory of the spinal chord being exclusively devoted to an excito-motory system of nerves For animals, particularly of the cold-blooded class, after removal of the cerebrum, on being irritated, perform movements which afford the clearest proofs of perception, and, if we establish this fact, it will follow that there is a power resident in the spinal chord of taking cognisance of the stimulus, and performing regular and combined movements independent of the cerebrum.

The whole question then resolves itself into this, what is the state into which an animal is reduced, or the movements which it is capable of performing, after removal of the cerebrum? and the subject at present does not relate to the involuntary movements of respiration, sneezing, coughing, &c., of which we have already spoken, and admit to be of a reflex character; but to movements performed by what are termed muscles of voluntary motion, employed in walking, leaping, and the various movements of the limbs, &c., by which alone perception can be indicated.

We proceed then to show, that after removal of the cerebrum or brain, the phenomena manifested by an animal on the application of a stimulus indicate perception, or the power of regulating its movements to the attainment of an end.

Experiment I.—In a frog I removed the cerebral lobes with great care, and observed the phenomena.

On removal of the cerebral lobes the frog lost the power of spontaneous motion, as it scarcely moved except when irritated, but remained for weeks seated in a shallow vessel, amidst a little water, with its hind legs drawn up—the posture that frogs are accustomed to assume when they rest; and respiration remained perfect.

But on being irritated, it moved with great vigour, and gave every indication of recognizing the stimulus. When laid upon its back, it immediately turned upon its face, and then made several leaps before it became quiescent. On placing the finger over the spine in the interscapular region, it croaked distinctly. When seized by the foot, it struggled much to be relieved, and on being freed leapt to a distance. On irritating the integuments of its right dorsal region it raised its right hind foot and pushed away the instrument. And on irritating the integuments of its left shoulder, it immediately removed the instrument with its left hind foot. When I touched slightly with the point of a needle the integuments of its abdomen on the left side, it scratched the part with its left hind foot. And when I irritated the integuments of its lumbar region on the right side, it immediately raised up its right

Todd and Bowman also admit that the most recent observations on the structure of the spinal chord do not coincide with the views of Mr. Grainger.—Messrs. Todd and Bowman's Physiology, p. 331.

hind foot, and pushed away the instrument with force. On being raised up and then replaced upon the table, it would make several leaps before it became quiescent, and then draw up its hind legs, adjust itself, and assume the usual posture of rest; and did not again move till irritated.

Reflex movements could be produced in the extremities of this frog by compressing gently one of its toes, or irritating slightly with the point of a needle the integuments of its thorax. But the irritation always required to be performed with the greatest caution, and after the frog had remained quiescent for some time.

Experiment II.—In another frog I divided the *medulla oblongata* at the origin of the *trigemini* or fifth pair of nerves, and removed every portion of the encephalon anterior to this, and observed the phenomena. The effects of the operation had extended to the origin of the *par vagum*, as respiration continued for a little, but gradually ceased. The frog, however, survived the operation for several days, but no longer exhibited the power of spontaneous motion, as it did not move from the place where it was seated, till irritated; but on being irritated it gave the most indubitable proof of responding to the stimulus.

I compressed gently with the forceps one of the toes of its right hind foot, and it immediately withdrew it with great vigour, turning its body in the opposite direction. I irritated the integuments of its right shoulder, and it immediately scratched the part with its right hind foot. I then seized the part with the forceps and compressed it gently, when it raised up its right hind foot and pushed away the instrument. I touched slightly wlth the point of a needle the integuments of its left cervical region, and it quickly turned up its left fore foot to the part, and then moved forward its left hind foot, and scratched the part with it. I touched its cloaca with the point of a needle, and it crawled forwards a little. I surrounded it with objects to prevent its progressive motion, and then irritated its right dorsal region, when it immediately pushed away the instrument with its right hind foot.

I placed this frog upon its back, and irritated slightly with the point of a needle the integuments of its thorax in a longitudinal direction, and a reflex movement was observed in both its anterior extremities. I compressed gently one of the toes of its left hind foot, and a reflex movement was observed in the toes of that and the opposite extremity, and then the frog made an effort to raise itself up.

Experiment III.—In another frog I divided the *medulla oblongata* about the origin of the *par vagum*, and removed every portion of the brain, and observed the phenomena. Respiration ceased immediately.

On seizing with the forceps one of the toes of its right fore foot, it raised up its shoulder and endeavoured to withdraw its foot, but being retained it moved forward its right hind foot and planted it against the instrument, at the same time turning its body in the opposite direction, still endeavouring to extricate its foot. On irritating slightly its right dorsal region with the point of a needle, it raised its right hind foot, and pushed away the instrument. When I irritated the integuments of its abdomen on the left side, it immediately removed the instrument with its left hind foot, and then raised its foot and scratched the part with it. When I touched with the point of a needle the right lumbar region, it drew up

the joint of its right hind leg over the part. When I pressed the left hind foot against the table with my finger, it struggled much to be relieved, and on being freed crawled to a considerable distance before it became quiescent. I then irritated its cloaca slightly with the point of a needle, and it drew up its hind legs over the part.

I placed this frog upon its back, and compressed gently with the forceps one of the toes of its right fore foot, and a slight reflex movement was observed in both its anterior extremities. I compressed gently one of the toes of its left hind foot, and a slight reflex movement was observed in all the toes of that extremity. On compressing the part more forcibly the limb was retracted, and a slight reflex movement was observed in the opposite extremity.

Experiment IV.—In a frog I divided the *medulla oblongata*, removing every portion of the brain. The division was made about the origin of the *par vagum* or eighth pair of nerves, which in the frog is the last pair of cerebral nerves. Respiration ceased immediately. After allowing the frog to remain at rest for a short time, I applied irritation, and observed the following phenomena.

On touching with the point of a needle the integuments over the left scapula, it raised its left hind foot, and pushed away the instrument. When I irritated the integuments of the right cervical region, it raised its right fore foot and scratched the part with it. When I irritated the integuments over the lower portion of the right scapula, it moved forwards its right hind foot and pushed away the instrument. On irritating the dorsal region the frog crawled forwards a little. On seizing with the forceps a toe of the right fore foot, it distinctly withdrew it. On the part being again seized and retained, it turned its body in the opposite direction, and endeavoured to withdraw its foot, and on being freed placed it below its thorax.

Reflex movements could be produced in this, as in other frogs, by a slight irritation of the extremities, and were always readily excited by irritating the integuments of its thorax when the frog was placed upon its back.

I performed the same experiment on many other frogs, and always with similar results; the animal after division of the *medulla oblongata* and complete removal of the brain, recognising most distinctly a stimulus applied to its body by raising up its foot and pushing away the instrument, or scratching the part that was irritated.*

From these experiments it appears that cold-blooded animals, after being deprived of the cerebrum or entire portion of the brain, can perform distinct perceptive movements, or evince cognisance of the stimulus applied to their body. And there must be sensation and distinct control over the muscles in these specific acts. For we maintain that no difference can be observed between these perceptive movements and those performed by unmutilated animals when subjected to similar irritation. The animal leaps, indeed, or performs regular progressive

* I may state, for the benefit of those who wish to verify these experiments, that they always succeed best early in spring, when the animal is taken, or has just emerged from its winter recess. In which case its physiological condition of a cold-blooded animal is particularly developed.

motion on the application of a stimulus—raises its limb, and removes with its foot the instrument that touches its body, or scratches the part that is irritated. In fine, it comports itself in every respect according to the degree and mode of irritation; and to deny that these movements are under the control of the animal, is to assert that it has no power over the voluntary muscles of its body when we witness in the movement the most distinct evidence of design. It is no doubt true that the animal ceases to exhibit the power of spontaneous motion, as its movements are performed chiefly in response to a stimulus. But then they are perfectly identical with the movements of an animal possessed of distinct voluntary power, and must consequently be performed by the same nerves, as no involuntary movement or principle of reflex action could produce such an effect.

Hence it appears that the function of the spinal chord in coldblooded-animals is not confined to the involuntary or reflex movements of respiration, deglutition, &c. But that we are to attribute to it an inherent power over the voluntary muscles of the body, in regulating and directing them to the attainment of a definite object, or performing distinct perceptive movements on the application of a stimulus.

And this doctrine, it will be observed, leads to a view of the function of the cerebrum opposed to that of M. Flourens, Dr. Marshall Hall and others, who consider that it is the seat of all the intellectual and perceptive powers of an animal.* But as we have indubitable proof that an animal may feel, perceive, and move in response to a stimulus, independently of the existence of the cerebrum, it appears that the functions of that organ is not to bestow these powers upon an animal, but to enable it to act on the possession of them, to remember its sensations and impressions, and render the knowledge thus acquired available to the purposes of life.†

* It will be observed that, whilst M. Flourens holds the theory of the excitability of the spinal chord, and Dr. Marshall Hall that of reflex action, they both agree in considering the cerebrum as necessary to an animal being possessed of sensation, and the power of perceiving an impression.

† The great difficulty with the opponents of this doctrine, that an animal is possessed of perception after removal of the cerebrum, is, that it shows no evidence of spontaneous motion and remembering the impression. But the absence of the one power is no proof against the positive existence of the other, when it is demonstrated by experiment. It surely does not follow that an infant is incapable of suffering pain, because its mental powers are still undeveloped? or that a person labouring under concussion of the brain does not feel an external impression, when he raises his hand to the part of his body that is irritated? or that the somnambulist does not walk or recognise an object, because they have no recollection of the act? The fact is, that the power of remembering an impression, so as to render it a subject of action, is totally distinct from the power of perceiving it. And whilst the former may be obscured or completely annihilated in an animal, the latter may remain and be distinctly manifested. A patient whom we visited, labouring under an affection of the head, with evident symptoms of pressure on the brain, lay for weeks in a state of deep stupor, insensible to every thing around her, and giving no indication of her wants except by a small movement of the lips, which her attendants observed when she required food or to be raised up. But on pinching her skin, she moaned or raised her hand to the part. It happened that during her illness she required the application of leeches to

2*d*. It will be observed, that, whilst we maintain the doctrine of the perceptive power of the spinal chord, we do not deny the principle of reflex action, though we consider that it may be connected with sensation, as all that is necessary to produce a reflex movement, is that the motor nerve be excited by the impression on the afferent nerve being communicated to it independent of the will of the animal; and this is the principle on which are constituted the involuntary or reflex movements of sneezing, coughing, &c. But we also admit that reflex movements may be excited in the voluntary muscles of an animal by any sudden and unexpected impression acting on the surface of the body or extremities of the nerves, as when a limb starts up involuntarily by being suddenly pricked with a pin, in which case the impression on the afferent nerve is immediately communicated to the motor nerve and excites the movement of the part. And we have seen that in a frog, after removal of the cerebrum or brain, reflex movements may be readily excited in the body and extremities of the animal by a slight irritation of the integuments or compression of a toe, &c. But these movements are always general and indefinite, and totally distinct from the perceptive movements performed by the same class of muscles.

From what has been already stated, it will be seen, that it is illogical to argue, as some physiologists have done, that as there is evidence of design and adaptation in the involuntary movements of the body, when the action is reflex, so the perceptive movements performed by an animal after removal of the cerebrum, may also be dependent on the same cause. For such a supposition, as we have already shown, is subversive of the data by which we determine the character of all perceptive movements. And we have only farther to add, that, as it may be laid down as a general proposition, that reflex action is of a general and indefinite nature, it could never effect a specific movement without a particular structure of the parts. When, therefore, it is maintained by the abettors of an excito-motory-system that a decapitated animal is reduced to a mere automatic state, totally incapable of sensation, and yet that movements perfectly indicative of design may be performed by the muscles of voluntary motion, on irritation being applied to the integuments, does it not appear that this amounts to nothing less than a contradiction in terms, or what mathematicians would call *reductio ad absurdum?*

The doctrines then which we deduce from these experiments are the following:—

1*st*. That the cerebrum is the seat of spontaneous motion, of memory and reflection.

2*d*. That the power of perceiving impressions, and performing movements in response to them, by a distinct control over the muscles

her side, when her hands required to be held, to prevent her from removing them by force. And yet after her recovery, for she completely recovered, and is now in the enjoyment of good health, she declared that she remembered nothing of all that had transpired. But it would be difficult to suppose that she neither felt pain nor perceived the external impression.

of voluntary motion, is a property of the spinal chord, and possessed by an animal after removal of the cerebrum or brain.

3*d*. That the involuntary movements of respiration, deglutition, sneezing, coughing, defecation, &c., are dependent on a principle of reflex action possessed by the spinal chord.

4*th*. That the nerves connected with the muscles of voluntary motion may also take on reflex action, when an impression is produced suddenly on the surface of the body or extremities of an animal; but these movements are destitute of design, and easily distinguished from the perceptible movements performed by the same class of muscles.

In the experiments from which these doctrines have been deduced, it will be observed that every portion of the brain or encephalon anterior to the division of the *medulla oblongata* was removed, and that the division was often made so low as to affect the origin of the *par vagum*, which in the frog is the last pair of cerebral nerves; and yet the animal on being irritated gave the most distinct proofs of perceiving the impression and performing movements in accordance with it: and this we conceive is sufficient to set aside, so far as cold-blooded animals are concerned, the theory of senso-motory nerves being entirely connected with the cerebrum; or the proposition that in a decapitated animal no movements can be excited but those of reflex action.

We now proceed to consider the phenomena manifested by experiments on the salamander; and to show, that, on a still lower division of the chord, the animal possesses control over the movements of its lower extremities, and takes distinct cognisance of a stimulus.

In a salamander, (*Lacerta aquatica*, Linn.) I divided the spinal chord at the third spinal vertebra, and observed the phenomena. This division of the chord leaves the animal perfect power over its anterior extremities, as in the salamander the nerves going to the fore legs arise principally, as in the frog, from the second pair of spinal nerves.

After the effects of the operation had subsided, the animal raised itself upon its fore legs and began to move forwards, but did not drag its body like an animal that had suffered paralysis in its posterior extremities, but made distinct efforts with its hind feet in performing locomotion, supporting itself on them, as on its anterior extremities, and moving them alternately in accordance with the movements of its fore legs, as it crawled slowly along the surface of the table. And during these movements the divided ends of the chord did not come into contact, but remained distinct and separate.

I placed the animal upon its side, and it quickly turned upon its face, and its left hind leg remaining beneath its body, it distinctly withdrew it and began to move forwards, manifesting perfect power and control over its posterior extremities, but the movements were performed with less vigour than before the division of the chord.

When the animal after being quiescent again began to walk, spontaneous motion did not commence in its posterior extremities, but the animal raising itself on its fore legs began to move forwards, and then instead of dragging its hind feet, lifted them by turns, spreading out its toes as it supported itself on them, and moved slowly along the table.

After the animal remained at rest, I touched slightly, with the point of a needle, the integuments of the right dorsal region a little below the division of the chord, and it moved forwards its right hind foot and passed its toes distinctly across the part. I touched in a similar manner the integuments of the left dorsal region, and it quickly raised up its left hind leg, and scratched the part with its foot. On irritating the integuments on the right side of its abdomen, it raised its right hind foot to the part. On touching with the point of a needle a toe of its left hind foot, as it lay extended from its body, it raised its limb, and placed it along the side of the abdomen.

Experiment II.—In a salamander, I made a similar division of the chord, viz., at the third spinal vertebra, leaving the animal complete power over the movements of its fore legs, and then removed a small portion of the dorsal vertebræ and lower division of the chord, so that the divided ends could not come into contact.

Shortly after the operation the animal raised itself upon its fore legs, and began to walk, and moving slowly along the table did not drag its hind feet, but lifted up the one foot and moved it forwards, whilst it retained the other on the table, and so on in regular succession, in unison with the movements of its fore legs, as it performed locomotion. When placed upon its side, it turned upon its face, and withdrawing its right hind leg from beneath its body, again commenced to walk, and crawling over a scalpel which lay upon the table exerted its hind legs most distinctly in passing over the instrument; and during these movements the divided ends of the chord did not come into contact.

Whilst the animal lay quiescent, with its right hind leg stretched along the side of its tail, I touched gently with the point of a needle the lateral portion of its right dorsal region, a little below the division of the chord, and it immediately moved forward its right hind leg to the part. I touched it again, and it quickly raised its foot, curving its body still more than before, and passed its toes distinctly over the part. I irritated, in a similar manner, the lateral region of the opposite side of the body, and it raised up its left hind foot, and passed its toes most distinctly over the part. After a few minutes, I renewed the irritation, and it again raised up its foot, and passed its toes in a similar manner over the part. On touching with the point of a needle a toe of either of its hind feet, it raised the foot, and changed its position. During these movements its fore legs remained apparently quiescent.

Experiment III.—In a salamander, I made a similar division of the chord, viz., at the third spinal vertebra, leaving the animal perfect power over its forearms, and then removed a small portion from the lower division of the chord, so that the divided ends could not come into apposition, but remained separate, and observed all the phenomena manifested in the preceding experiments, both as regards the act of locomotion, and the various movements performed in response to a stimulus.

I then passed an instrument into the anterior portion of the spinal chord as far as the occiput, destroying completely that portion of the chord, and consequently all the movements of the anterior extremities.

And on touching with the point of a needle, the integuments of the left dorsal region immediately below the division of the chord, the animal quickly raised up its left hind foot, and scratched the part twice. I irritated in a similar manner, the integuments of the right dorsal region and the animal scratched the part with its right hind foot. On irritating the integuments on the right side of the abdomen, it raised up its right hind foot to the part. I again touched with the point of a needle the left dorsal region, and the animal raised up its left hind foot, and spread its toes over the part. On irritating the integuments of the head, lower jaw, &c., no movements could be produced in the lower extremities; showing that there was no nervous communication between the divided portions of the chord. But as soon as I touched the portion of the integuments supplied with nerves from below the division of the chord, the animal raised up its hind foot, and passed it over the part that was irritated. In short, it seemed to recognise most distinctly a stimulus applied below the division of the chord, but did not move without being irritated.

Experiment IV.—In a salamander, I divided the spinal chord immediately below the nerves going to the fore arms, allowing the animal to retain perfect power over its anterior extremities, and then removed a small portion of the lower division of the chord, rendering the part perfectly separate.

This animal, like the other salamanders, continued to possess the power of locomotion, manifesting control over the movements of its posterior extremities, as it crawled slowly along the table. On irritating the integuments below the division of the chord, it raised its hind leg, and scratched the part with its foot, and performed all the movements which we have described as manifested on a similar division of the chord.*

I now divided the spinal chord immediately behind the skull, laid open the immediate vertebræ, and removed that portion of the chord, viz., connected with the movements of its fore legs.

I then touched with the point of a needle the integuments of the right dorsal region immediately below the division of the chord, and the animal raised its right hind leg, and scratched the part with its foot, I irritated a similar portion of the left dorsal region, and the animal scratched the part with its left hind foot, and repeated the movement. On irritating the side of its abdomen with the point of a needle, it quickly raised its left hind foot to the part, and on touching the right side of its abdomen in a similar manner, it immediately raised its right hind foot, and passed its toes most distinctly over the part. When I irritated the integuments of either foot slightly with the point of a needle, it quickly raised it up and changed its position.

* Most of these experiments were performed in spring, when the animal had just left its winter quarters; and from the physiological condition of the animal, the experiments always succeed best at that period of the year. And many of them were witnessed by competent judges, who can attest the accuracy of the operation and phenomena observed.

During this period no movements could be excited in the lower extremities by irritating the integuments of the head, lower jaw, &c., showing that there was no communication between the divided portions of the chord. But on touching with the point of a needle the integuments of either side of the body immediately below the division of the chord, the animal quickly raised up its hind foot, and scratched the part with it in the manner described—thus recognising most distinctly a stimulus applied below the division of the chord.

Experiment V.—In a salamander, I made a similar division of the chord, viz., at the third spinal vertebra, and observed the phenomena which we have described as manifested by the other salamanders—the animal retaining power over its posterior extremities, so as to assist in the act of locomotion; and recognising most distinctly a stimulus applied below the division of the chord, as it raised its hind foot, and scratched the part of its body that was irritated, &c.

A few days after this, I divided the spine immediately behind the skull, and removed the portion of chord contained in the intermediate vertebræ, and also passed an instrument into the cranium, and completely removed the encephalon.

I now irritated with the point of a needle the integuments of the right dorsal region immediately below the division of the chord, and the animal raised its right hind leg, and scratched the part distinctly with its foot. I irritated in a similar manner the integuments of the left dorsal region, and it scratched the part with its left hind foot. I touched with a needle the integuments of the right side of its abdomen, and it raised its right hind foot to the part. On irritating the toe of either of its hind feet, it quickly raised its foot, and placed it in a different position. I irritated the integuments of the left dorsal region, and it raised its left hind foot and spread its toes over the part. But it did not move without being irritated.

I performed the same experiment on many other salamanders, and with similar results, the animal, after the encephalon and upper portion of the chord had been removed, recognising the stimulus applied to the integuments supplied with nerves from below the division of the chord. But in these cases, an interval was often required to elapse before the irritation was renewed, in order that the movements might be distinctly manifested.

1st. These experiments, it will be observed, exhibit very remarkable phenomena. But still, as far as regards the function of the spinal chord, these phenomena are of exactly the same nature as witnessed by experiments on the frog, the only difference being that, in the former case, the chord was divided anterior to the origin of the *par vagum*, and the whole of the brain removed; but in this the chord was divided a little lower in the spine, viz., below the second pair of spinal nerves, and all communication intercepted from the cerebral lobes, or they were entirely removed, so that, as far as relates to the functions of the spinal chord, after it is cut off from all influence and communication with the brain, the movements are essentially the same in character.

2d. The phenomena manifested by these experiments, cannot, we

maintain, be accounted for on the principle of reflex action. For the elements of a controlling power or agency which enters into these movements renders them incapable of being explained by the impression on the afferent nerve, being merely reflected by the efferent or motor nerve of the part. And in all the examples of reflex action that have been witnessed in man, or described as occurring in warm-blooded animals after division or injury of the spinal chord, the movements have been of a general and indefinite character; the muscles of the inferior extremities merely contracting on the application of a stimulus, so as to produce extension and then retraction of the limb, but nothing like a definite power being manifested. In a case of reflex action which came under our own observation, and to which we particularly attended, the patient laboured under Pott's disease of the last dorsal vertebra, with complete loss of sensation and power of voluntary motion in his inferior extremities. On irritating slightly the toes of either foot, that or even both limbs were immediately retracted and drawn up towards the abdomen, and maintained a vibratory motion for some time, which was always renewed on applying the irritation. But no appearance of control was manifested in these movements, as in the acts of locomotion performed by the salamander. And if the one class of movements be admitted to be of a reflex character, then the other must be considered to be specifically different, as elements of a controlling agency are manifested. Even M. Flourens, who holds the theory of the excitability of the spinal chord, acknowledges that the salamander has the power of moving its inferior extremities and performing acts of locomotion, after the division of the chord; a phenomena which is not observed in warm-blooded animals.*

* "Si, sur un animal a sang chaud, sur un oiseau, sur un mammifère, par exemple, on divise un point quelconque de la moelle épinière par une section transversale, aussitôt toutes les parties situées au-dessous du point divisé sont frappées de paralysie. Si, par exemple, la section a été faite au-dessus du renflement posterieur de la moelle épinière, aussitot les jambes de derrière sont frappees de paralysie; l'animal les traine, mais il ne les meut plus.

"Il n'en est pas ainsi pour les salamandres. L'animal continue a mouvoir ses jambes et sa queue, quoique la moelle épinière, et meme toute la colonne vertebrale, soient coupees fort au dessus de l'origine des nerves des jambes et de la queue.

"Je coupai la colonne vertebrale, et la moelle épinière, sur une salamandre.

"Immediatement apres l'operation, l'animal remuait deja ses pattes de derriere, et sa queue.

"Un mois plus tard, il les remuait, ou les mouvait beaucop mieux encore. Il marchait, et faisait avancer tour a tour, pour marcher, chaque jambe de derriere, comme il faisait avancer tour a tour celles de devant.

"Cependant le reunion des deux bouts de moelle épinière divises n'avait point en lieu.

"J'ai repete cette experience sur plusieurs autres salamandres.

"Elles ont toutes survecu pendant plusieurs mois.

"Et, de plus, elles remuaient toutes de meme, et surtout quelques mois apres l'operation, leurs jambes de dérriere, et leur queue."—Recherches Experimentales sur les Proprietes et les Functions du Systeme Nerveux, dans les Animaux Vertebres. Par P. Flourens, p. 420.

3d. We maintain that these phenomena afford distinct evidence of the perceptive power of the spinal chord. The animal, we have shown, does not merely retain the power of moving its limbs, but of moving them with order and regularity, and to the attainment of a specific end, taking distinct cognisance of the stimulus applied below the division of the chord, by raising up its hind leg, and scratching with its foot the part of its body that is irritated. And these movements it performs not merely after the chord has been divided, but after the upper portion has been removed as far as the occiput, so that no influence could be communicated from the brain to that segment of the chord,—nay, after the encephalon has been destroyed. And if these movements be not of a perceptive character, then there is no meaning in language, and we must give a new definition to the term perception. For it is of no avail to urge against these facts, the frequently repeated objection, that many movements of adaptation depend on reflex action, and that these may be of an analogous nature. As well may it be asserted, that the perceptive movements performed by an animal before division of the chord are of a reflex character. as that these belong to that category.

4th. But perhaps it may be stated, as a metaphysical objection, that it seems opposed to the unity of mind, for a perceptive power to be manifested by the spinal chord, when it is cut off from all influence and communication with the brain. But no metaphysical theory can ever set aside a positive fact, which we maintain is established by these experiments. We must interpret the laws of nature according to the phenomena observed; and if it can be shown on the principles of inductive science—by clear and distinct experiment—that an animal is capable of recognising a stimulus by the power possessed by the spinal chord, when it is cut off from all communication with the brain, then, to overturn this opinion, it will be necessary to disprove the fact, and this we maintain is impossible.—*Edinburgh Med. and Surg. Journ.*

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH. Nov. 12, 1845.

Contagiousness of Puerperal Fever.—Dr. Peddie read a series of cases, illustrative of the contagiousness of puerperal fever, and its intimate connection or association with erysipelatous and phlebitic inflammation.

He had felt it to be his duty to communicate the facts connected

M. Flourens evidently perceives that these phenomena are opposed to the view which he maintains in the first part of his work, and to which we have previously referred. And he endeavours to account for these movements on the principle of reproduction of parts, and the relation which the division of the chord bears to the origin of the eighth pair of nerves. But none of these principles can ever account for that *positive power* which the animal possesses, of not merely moving its limbs, but, as we have shown, of taking cognisance of a stimulus, after division of the chord below the second pair of spinal nerves.

with these cases to the profession, as, besides being important in a pathological respect, they might perhaps contribute in some degree to avert hazard from a most interesting class of patients, and preserve to the medical man that peace of mind and prosperity in practice which might otherwise be interrupted. While candor required this course, he felt assured of obtaining sympathy on account of the painful situation in which he had been placed; and that, though the unfortunate medium of spreading a fatal disease, no larger share of blame would be imputed to him than appeared due, when the history of these melancholy cases had been carefully considered.

Case I.—Mrs. S., aged 32, previously weak in health, and depressed in spirits, entertaining a presentiment of approaching death, was delivered on the 2d of September, after an easy labour. She was not carefully nursed; was seized on the third day with fever, which soon assumed the principal features of the malignant adynamic type, as described by Locock and others; and died on the 10th, the eighth day from her accouchement.

Case II.—Mrs. W., aged 23, a poor woman, attended for another practitioner, at that time out of town. She was a very delicate person, and predisposed also to fever by a strong presentiment of death; was delivered after a very easy labour, although her first child, on the 7th of September, and afterwards transferred from Dr. Peddie's care. She had begun to complain on the third day, and died on the 13th,—the sixth day from her accouchement,—with all the symptoms of the adynamic fever, complicated with much intestinal irritation.

Dr. Peddie was not aware of this person's illness and death until after he had delivered his next patient.

Case III.—Mrs. K., aged 25, also delicate, and in extremely low spirits, was delivered on the 14th September, of her second child; labour natural and easy; fevered on the 16th. Her case afterwards presented nearly the same features as those in Case 1, and she died on the 21st, seven days from the period of her confinement.

On the appearance of fever in Mrs. K.'s case, and finding that no epidemic prevailed, Dr. Peddie perceived that a contagious puerperal fever had broken out in his practice, and immediately consulted with several medical friends as to whether he should now for a timegive up all obstetric engagements. The advice received was to comply as usual with the next call for attendance, but to adopt every possible precaution against the transmission of the virus further. Accordingly, by assiduous attention to sprinkling and washing with the solution of the chloride of lime, proper arrangement of visits, and change of garments—not forgetting even the gloves and handkerchief—he secured the safe delivery and recovery of three patients, the first on the 19th, the next on the 22d, and the last on the 25th of September. That none of these patients showed the smallest tendency to

fever, was the more satisfactory and encouraging, as the first and last were rather delicate, and the other was sister to Mrs. S., (Case No. 1,) who died only twelve days previously, and with whom she was much in contact. This, too, was the more singular, as she was in a state of so much alarm in the prospect of her own approaching hour of trial, as to be seized with labour rather prematurely. Dr. Peddie's anxious fears regarding the further propagation of the disease were thus lulled into security, and he felt disposed to view the occurrence of three consecutive cases of fever as one of those remarkable coincidences with which medical men occasionally meet; or if they really were instances of contagious fever, that the virulence of the morbific influence was exhausted, or could be overcome by the adoption of precautions. These sanguine hopes, however, were soon distressingly disappointed by the occurrence of the two following cases in rapid succession :—

Case iv.—Mrs. T., aged 29, was delivered of her second child at twelve at noon, on the 26th of September. Resided a few doors from Mrs. K., (Case No. 3,) whom she attended on the evening of her confinement, and visited frequently until the fever showed itself, and again on the 18th, although strictly prohibited, when she assisted in effecting a change of clothes and bedding. She was afterwards likewise exposed to contagion from the constant intercourse of friends between the two dwellings. Her labour was very easy, and she had every appearance of doing well, until next day at twelve o'clock, noon, when she fevered; and death occurred in the evening of the 30th, the third day from the period of accouchement.

Case v.—Mrs. T., aged 23, was delivered of her first child at twelve o'clock, noon, on the 27th of September, after a natural but rather tedious labour. It was completed some hours before Dr. Peddie had an opportunity of knowing that his last patient, (Case 4,) had been seized with the fever; and on making his evening visit, he found that she too was already affected with the dreadful malady. Death took place at three A. M., on the 30th, less than three days from the time of her confinement.

Dr. Peddie considered it beyond question, that Mrs. T., (Case 4,) had obtained contagious fomites from his last fatal case, (No. 3;) and while herself affected therefrom, had communicated the virus anew to his person, who conveyed it unconsciously to Mrs. T., (Case 5,) in whom it was developed almost from the moment of parturition.

Dr. Peddie now abandoned the practice of midwifery; was confined at home for several days, being much indisposed with sore throat, fatigue and anxiety; took medicine, and the warm bath; exposed the clothes worn at the cases in an airy chamber, and sprinkled them from time to time with the solution of the choloride of lime, and went into the country for eight days, four of which were spent at the sea-side, and four on an excursion, into Perthshire and Stirlingshire. A

fortnight, less one day, thus elapsed before Dr. Peddie resumed his practice, and accepted (on the 13th Oct.,) the next obstetric call, in consequence of urgent solicitation. Dr. Peddie entered into a minute detail of the symptoms of this case, (Mrs. M.'s, aged 30, first child,) which unhappily proved fatal on the 24th of October, eleven days from the period of her accouchement; and he gave it as his own opinion, after much careful consideration, that he could not persuade himself of its having been a case of contagious puerperal fever, as there was a total dissimilarity in symptoms and mode of termination from the preceding characteristic cases, and as she had been in a most critical state of health for a considerable time previous to labour, with ulceration of the bowels, dilatation of the heart, and general debility. Dr. Peddie, however, stated, that lest his opinion was incorrect, he had felt it to be his duty to withdraw from midwifery practice for some time to come.

After some remarks on the nature of puerperal fever, and the opinion of authors concerning it, Dr. Peddie narrated several cases of erysipelas, phlebitis, and peritonitis, attended by him at the same time, and mixed up with his puerperal cases. From one of these, he thought it probable that the animal poison, producing the line of disastrous events in the accouchement chamber, originated, and referred, in proof of this opinion, to parallel instances related by Mr. Storr, of Doncaster, in the *Provincial Journal*, No. 166, 1843. The subject was a gentleman with a gangrenous erysipelas, spreading from sinuses surrounding the right hip-joint, which took their origin from a mismanaged bubo, and a much impaired constitution. It was the most malignant case of the kind ever witnessed by Dr. Peddie—proving fatal on the 13th of September, after the body had become deeply jaundiced, and large purulent deposits, with considerable emphysema, had formed in the right knee and left shoulder joints, as also among the muscles of the right forearm. This patient required dressings twice daily on account of the profuse discharge of dark-coloured fetid matter from the sinuses; and it was while attending him, although ablutions were regularly performed, that Dr. Peddie delivered Mrs. S., and Mrs. W., (Cases 1 and 2,) and, on the day following his death Mrs. K., (Case 3.)

Dr. Peddie then gave an account of several cases of *disease undoubtedly originating from the puerperal fever case*, No. 3,) thus affording a reflex proof of the existence of a puerperal contagious virus, affecting non-pregnant individuals, according to their special circumstances. One of them, a lady's nurse, who assisted frequently at Mrs. K's., was seized on the 25th of September with fever; the symptoms at first being chiefly referrible to the abdomen, and then to acute phlebitis of the right forearm, from which she had been bled, and died delirious on the 2d of October. Another was a nurse, who had acted occasionally at Mrs. K's., had also waited on the sick nurse for one day, and had visited Mrs. T., (Case 4,) on the afternoon of her confinement, was affected with erysipelas of the head and face, from which she recovered with difficulty. And a third was an old lady, who was lodging in the house of the lady's nurse, with whom

she took fever simultaneously, which, however, in her case proved to be mild. It was also remarked, that almost every individual who had visited at Mrs. K.'s, during her illness, complained soon afterwards of one kind or another, particularly with slight feverishness and sore throat; and it was at this time also that Dr. Peddie himself became affected in the same way.

Dr. Peddie concluded his communication, by stating the following as the principal points which he thought the facts mentioned seemed to prove:—

1st. That a specific virus, of an animal nature, is produced under certain circumstances, and in turn generates a peculiar form of fever in the puerperal state.

2d. That a virus frequently originates from erysipelatous inflammation.

3d. When once generated, it may be communicated from one lying-in patient to another with extraordinary virulence, quite independently of locality or epidemic influence, either by direct intercourse, or through the medium of a third person; and that this is more likely to happen when the predispositions of a weak body and depressed mind exist.

4th. That it may also produce disease of various kinds in non-puerperal individuals, more especially of an erysipelatous and phlebitic character.

5th. That the treatment of a contagious puerperal fever, whether directed by theoretical opinions, or the indications of physical signs, proves of little avail; but that, if any theory is to be entertained respecting this malady, it should be that something of a specific and morbific nature requires to be thrown out of the system, and the powers of life at the same time sustained; and that the practice which holds out the greatest prospect, small at best, of this being accomplished, is the adoption of the diaphoretic and stimulant plans, according to the stage of the disease.

6th. That the principal concern of the medical man should be—seeing that a cure is so rare—to adopt every conceivable precaution against the occurrence of a single case of the disease, or to lesson the risk of its propagation when once established in his practice. And to attain these ends, patients in childbed should either not be attended at the same period with cases of malignant or severe erysipelas, or that proper caution should be observed as to ablutions, more especially after contact with any discharge from such patients; and when a case of puerperal fever does occur, chlorinated ablutions should be used; and if a second occur, he should withdraw from obstetric practice for two or three weeks, if possible; and in the interim attempt, by removal into the country, warm baths, and other alterative and purifying means, and by the exposure of clothing to a free atmosphere or high temperature, to rid himself of the subtle and powerful virus, which adheres to him so tenaciously.—*Northern Journal of Medicine.*

Contracted Cicatrix: Autoplastic Operation. By Sir John Fife.—An operation for contracted cicatrix, on the plan proposed by Professor Mütter, of the United States, has been recently performed in the Newcastle-on-Tyne Infirmary. The patient was a young girl, Eliza Goodchild, seven years of age. The contractions followed a burn of the throat, and prevented the head being raised, and the under lip being closed.

Sir John Fife had operated on the case once before, by simply dividing the adhesions, and fixing back the head; but after cicatrisation the integuments again became contracted, though not, as before, binding the chin down to the breast.

The operation was performed on the morning of the 7th of April. Sir John Fife commenced by making an incision entirely across the throat, followed by a perpendicular incision at each end of it; he then dissected between the integuments and the cartilages of the larynx, so as to admit of an extensive separation of the contracted integuments. A considerable portion of integument was now dissected from above the right clavicle, turned at the right perpendicular incision, and fixed across the throat by seven or eight stitches. The right external jugular vein was exposed, but not wounded; a branch from the right superior thyroid artery bled freely. Some lint was placed round the neck, covered with simple ointment. Four hours after the operation there was some secondary hæmorrhage; the dressings were removed, and another arterial branch near the former was tied. The integument placed across the throat looked slightly livid, but evidently retained its vitality.

During the subsequent progress of the case, one-half of the transplanted portion of integument lost its vitality, but the condition of the patient was nevertheless greatly improved.

The result of the foregoing operation appears to confirm the propriety of a suggestion made by Professor Mütter, that when the contraction is extensive a portion of the skin intended to supply the vacancy should be taken from either side, thus forming a double flap to meet in the centre. This method was actually adopted by Mr. Carden, of Worcester, in a case published in the twelfth volume of "The Transactions of the Provincial Medical and Surgical Association," the operation having been performed before Professor Mütter's paper was published, and, indeed, before that able surgeon had himself employed the autoplastic operation in these cases. As the volume of the "Transactions" containing the report of Mr. Carden's case is not in the possession of those of our readers who have joined the Association since its publication, and the case is itself of great interest in its bearings on the subject, the following abstract of it may probably be acceptable.

Mary Ann Barnett, aged 14, was admitted into the Worcester Infirmary, September 9th, 1839, with contracted cicatrix after a burn, which had occurred seven years previously. The movements of the head were greatly restricted; the mouth remained permanently open, the tongue protruded, the lower incisors projected horizontally,

and there was constant salivation. On attempting to raise the head, the eyelids were drawn considerably downwards. The patient, as well as her friends, being anxious to have something done for her relief, a consultation was held upon the case, and with the consent of his colleagues at the Infirmary, Mr. Carden performed the following operation:—

The patient being placed on a well-cushioned table, with her head and shoulders somewhat elevated, the operation was commenced by carefully gathering up the cicatrix from below the left ear to the top of the sternum, between the fingers and the thumb of the left hand, which allowed of the whole of that side to be transfixed and divided at a stroke; the same was repeated on the right side, and a short cut over the top of the sternum connected the two incisions. In this manner the whole transverse extent of the cicatrix was rapidly divided, the wound terminating in sound skin on each side. The chin was then drawn upwards by an assistant, and every tense band of cicatrix successively divided by repeated strokes of the scalpel, until the head was released into nearly its natural position. By this mode of dissection, although nothing had been removed, the hiatus produced was very great, and extended from the chin and edge of the lower jaw to below the upper border of the sternum, exposing the greater part of both sterno-mastoid muscles, and external jugular and thyroid veins, the latter being particularly large and prominent. The quantity of blood lost was very trifling, scarcely requiring the torsion forceps. As soon as all bleeding had ceased, Mr. Carden proceeded to select a portion of sound skin on each side, about three inches long, and two and a half wide; these were raised and detached, except at their junction with the outer edges of the wound, and brought together across the centre of the neck, and there united by hare-lip needles. The side wounds left by the flaps were then brought together, and the exposed parts covered with lint. The flaps were carefully supported by adhesive plaster, leaving apertures for the points of the needles, and the whole of the wound and surrounding integuments were well supported by long plasters and bandages.

The operation, which was severe and necessarily protracted, was borne with great fortitude, and without fainting. The needles were withdrawn two days after the operation; the dressings were not removed until the sixth day, when the flaps were found to have retained their position; but the upper border of each, being composed of old cicatrix, had perished, diminishing the breadth of each to less than two inches. The complete healing of the wound occupied nearly twelve months, during which time various contrivances were had recourse to for keeping the head in the erect position; but the bodily and mental suffering was so great, each time the wound was dressed, from these repeated stretchings, that they were altogether discontinued.

She was made out-patient in May, 1840, and in November following presented the following appearances:—Wound healed; position and movements of the head greatly improved; can close the mouth,

retain the saliva, and articulate distinctly; teeth regaining their natural position. A narrow cord has sprung up between the flaps, which threatens to draw down the centre of the lower lip, and also to prevent the further expansion of the flaps, which has hitherto been steadily going on and forming the most satisfactory feature of the case.

This band was divided by a curved bistoury, and pressure and further extension enjoined; but from that time she avoided attendance at the hospital, and neglected all directions. No more was seen of her until October 23d, 1843. She had then become stout in person; the teeth were quite upright; the flaps measured three inches on the right side, and two inches and three quarters on the left, from above downwards; but there was an increased contraction in the central cord. This she consented to have divided and separated from the flaps, which would then, it was thought, be permanently united, and her appearance considerably improved.—*Provin. Med. and Surg. Journal.*

Fracture of the Humerus, without the application of Violence. By J. Berncastle, M. D., M. R. C. S. Eng., Croydon.—The following instance of almost spontaneous fracture of the humerus occurred to a man named Williams, aged thirty, an excavator on the Epsom line of railway. He was in the act of lifting from the ground with his left hand a piece of wood about a foot in length, and not weighing more than ten pounds, intending to place it on his right shoulder, when he suddenly heard something snap and break. He applied immediately for advice; and on examination, the left humerus was found to have sustained a complete transverse fracture at about the middle of the shaft of the bone. A fracture having taken place from such an unusual cause, led me to inquire minutely into the history of the man, and I found, that six years ago he had gonorrhœa, for which he salivated himself. Three years back, he was laid up with rheumatism at Guy's Hospital, in Billet ward, under Mr. Cock, and came out cured. A year ago, he had rheumatism of the right arm; and six weeks before the late accident, he had had a severe attack in the left arm, now broken, which was treated with leeches, blisters, &c. All this does not appear in any way to have been likely to produce a predisposition to fracture; and even supposing that there might have been a diseased state of bone masked by the rheumatic symptoms, that suppposition is quite done away with by the fact of the bone having perfectly united, without a single troublesome symptom, in the space of one month, the callus being distinctly felt around the part, and the man able to use his arm, showing that the bone is in a perfectly normal state. He expresses himself quite pleased with the accident, because he says he has been easy ever since from the rheumatic pains—rather a novel "modus curandi!" Being a strong, athletic man, anything like a tendency to mollities ossium is out of the question; and the small size of the piece of wood he was in the act of lifting when the fracture occurred, rendering the theory of violent

muscular contraction also inapplicable, I am at a loss to account for the occurrence at all in a satisfactory manner, and I consider it a most rare and singular case of fracture.—*London Lancet.*

NORWICH LENT ASSIZES, April 1846.

Trial for the attempt to Procure Abortion. Is White Hellebore a Poison?—Sarah Whisker was charged with administering to Frances Baily, on the 5th of March last, a small quantity of White Hellebore, for the purpose of procuring abortion.

Mr. Bircham appeared for the prosecution, and having stated the facts to the jury, called

Frances Baily, who stated that she went to the prisoner's house to have her fortune told, and whilst there, the prisoner taxed her with being in the family way, which she admitted, and said, she was seven months gone. The prisoner told her to come in the evening, and she would give her something that would do her good, and not prevent her from going on with her work. She accordingly went, and the prisoner gave her a liquid and a powder, with instructions how to take them. They were taken accordingly, and the result was, that she became very ill and sick. She left her place, and went to Yarmouth, and in a day or two she became so unwell that she was obliged to have medical advice.

Mr. Burgess, surgeon, of Yarmouth, attended the prosecutrix, and stated the situation in which he found her. She was suffering great prostration of body. The stomach was very hot,—the pulse exceedingly low, and the patient evincing a disposition to retch considerably; and on his first seeing her he considered she was in a dangerous state, which induced him, after ascertaining the cause which had produced her illness, to apply to the Mayor upon the subject, with the view to have her deposition taken, and the prisoner apprehended.

Mr. Worship, of Yarmouth, surgeon, was examined as to the condition of the prosecutrix, and Mr. Cook, druggist, of Norwich, who deposed to having frequently sold hellebore to the prisoner. The female servant of the prisoner was called, who deposed to having frequently seen young persons at her mistress's house, and that she had frequently been sent by the prisoner to Mr. Cook's, to purchase white hellebore, hicra picra, dragon's blood, and turpentine.

At the close of the case for the prosecution, Mr. Prendergast took an objection to the indictment, that the evidence did not sustain the count for administering poison, the testimony of the medical gentlemen not establishing that hellebore was a virulent poison. The learned Judge, after much consideration, said, he would consult with Mr. Justice Maule upon it; but the indictment evidently ought to have contained a count for administering poison or some other *noxious* thing.

On the return of his Lordship into court, he expressed a wish to put further questions to Mr. Worship; and on that gentleman being re-called, he further stated, that, in his opinion, hellebore was noxious to the system, and produced ill effects, but he knew of no case in

which it had produced death; under these circumstances, he was not justified, he thought, *in calling it a poison.*

Mr. Page Scott, surgeon of the Castle, who happened to come into court at this time, was called upon by the Judge, and asked some questions by his lordship; and he stated, that he was acquainted with hellebore, and, in his opinion, it was a noxious poison. As a medical man, it was decidedly his opinion that *it belonged to the class of drugs called poisons.*

His Lordship then intimated that he should leave the case to the jury.

Mr. Prendergast then addressed the jury for the prisoner; and relied strongly upon the evidence not establishing hellebore as a poison.

His Lordship, in summing up, was of opinion, that *that was a poisonous drug which in common parlance was generally understood and taken to be such;* and the evidence for the prosecution, he thought, was sufficiently strong to bring hellebore within the meaning of the statute.

The jury returned a verdict, "that the prisoner was guilty of administering hellebore with intent to procure abortion."

The Judge—Do you find hellebore to be a poison?—Foreman. The medical men seem to differ on this point; and, therefore, we have not considered that question.—The Judge. You ought to take the way in which, in common understanding, it would be considered You had better consider whether it is a poison or not.

The jury almost immediately found, that it was a poison, but unknown to the prisoner.

His Lordship then had Mr. Cook the druggist, re-called; who stated, that the prisoner had been in the habit of purchasing hellebore at his shop for the last three years. She had purchased from half an ounce to an ounce at a time, and had done so once or twice a week for a considerable time.

A witness was called, who gave the prisoner a good character for being a kind-hearted woman.

His Lordship then proceeded to pass sentence:—The respectable gentleman, observed the learned Judge, who had last given evidence, was not aware he thought, of the practices of the prisoner. She had been found guilty of a very serious offence, and if in any one of the numerous instances of a similar kind in which she had acted, death had been occasioned, she would most undoubtedly have been tried for wilful murder. As the case then stood, he must make an example of her, and pass a severe sentence—as severe as the law would enable him to do; which was, that she be transported beyond the seas for the term of her natural life, as a just reward for one in the catalogue of those numerous offences which too many young women, he feared, if brought forward, would be able to relate.

Remarks.—The most curious feature in this case is the discrepancy in the medical evidence upon a point, concerning which we should have thought no doubt could have existed in the mind of any professional man. Is white hellebore (*Veratrum Album*) a poison, or is it

not? One witness admitted that it was noxious to the system, and produced ill effects; but as he had known of no case in which it had produced death, he did not think he was justified in calling it a poison! Fortunately for the ends of justice (the words "noxious thing" having apparently been carelessly omitted in drawing up the indictment) another surgeon happened at this time to come into court, who unhesitatingly gave it as his opinion that it belonged to the class of drugs called poisons.

White hellebore owes its activity to veratria, one of the most formidable among the poisonous alkaloids. The existence of such an alkaloid in white hellebore, if known to the witness, should have satisfied him that it was a poison. If he did not know that it contained veratria, then he was very unfortunately situated to have so material a question put to him. In a very large number of cases, white hellebore powder has been known to act as a powerful irritant, causing violent vomiting and purging, with great prostration of strength. In most of the instances of poisoning by it hitherto observed in the human subject, the persons have recovered; but in one case quoted by Wibmer, a man took as much of the powdered root as would twice cover the point of a knife, vomited seven or eight times, and died the same evening. The same case is quoted by Dr. Christison in the last edition of his work. The medical witness might therefore have readily satisfied himself, by referring to an easily accessible work, that he was decidedly mistaken in his opinion, that in short, white hellebore was not merely *noxious*, but a powerful *poison*. If it produces abortion, it is only by its strong irritant action on the bowels. In the fatal case above quoted from Wibmer, the œsophagus, stomach, and colon, were inflamed. As an additional illustration of its poisonous action, this author relates that twenty grains of the powdered root caused in a dog severe vomiting, purging and convulsions, followed by death in a quarter of an hour. These facts bear out the view taken by Mr. Page Scott. The prisoner, however, nearly escaped conviction; for even the jury were misled by the difference in the medical opinions, on a question on which no reasonable medical doubt can properly exist. The case furnishes in this respect a warning to medical witnesses.—*Med. Gaz.*

MEDICAL INSTITUTIONS OF ITALY.

Milan, May 18, 1846.

To the Editor of the Boston Medical and Surgical Journal.

Dear Sir,—Although it may possibly prove a superfluous undertaking, (so well are the European institutions known,) I have thought it might not be unacceptable to you to run over a few notes upon the hospitals of Italy, to several of which I have made a point of going, although not always having sufficient time to go over them in a thorough manner.

Italy certainly possesses many very noble institutions for the poor and the sick—and was, during the middle ages, far in advance of the rest of Europe. At Naples, the "Royal Poor House" should be mentioned as an institution of great usefulness and merit. It was commenced in 1751, and now is an immense building; one side is allotted to females, and the other to males. At present, between 5 and 6000 (according to the statements) are maintained and instructed by this establishment: among other things the inmates are taught *surgery*. The hospital for *Incurables* is capable of containing upwards of 1000 persons; the sick are received from all parts of the kingdom—and foreigners also. There are cliniques also—medicine, surgery, midwifery, an anatomical theatre, &c.

In Rome, the hospitals are not so well looking, *internally*, nor, I should think, so well conducted, as in most of the other Italian cities. The small hospital of Benfratelli, containing 80 beds, is much neater and better ventilated than San Spirito, the principal one. The Benfratelli is in the hands of the monks, who perform the services and duties for the sick. The aspect of things was exceedingly *dubious* as to the comfort of the patients. The immense wards of San Spirito are disgustingly dirty and wretchedly ventilated—and, what is worse, they have the most unscientific, *outrageous* arrangement of "*stowing away*" the poor patients in *double tiers—two tiers* on each side of the ward; the heads of patients in tier No. 2, lying at the feet of those in tier No. 1. I have never seen so bad an arrangement in any hospital—nor one so calculated to produce bad effects. More is the shame, too, for this hospital is *very* richly endowed. The Foundling Hospital and the Lunatic Asylum are also in this building, which, as you may imagine, is immensely large. In the lunatic department the old restraint system is still in use. There are several other hospitals in Rome; indeed, it is the boast there, "that no city in the world devotes so large a sum to institutions of charity, in proportion to the population." But some master's hand is wanted to direct and apply the abundant means. La Consolazione, near the Capitol, is the hospital allotted to *surgical* cases—a good number of these are *stabbing* cases. It is stated that the average number of patients is about 800 annually.

I attempted to enter the Hospital of San Michele, which is very large, *twice*, but was prevented each time: once because it was the "*sleeping time;*" the other visit, on account of its being fête day. The exclusion of visiters at the time when patients are asleep is certainly a good idea: and I have often thought that the visits in the Parisian hospitals, made at so early an hour, are decidedly more for the advantage and convenience of the physician and student than that of the *poor patient*, who is often roused from a slumber of great *importance to him*, to respond to the interrogatories of the visiter. Certainly, on the score of comfort and likelihood of benefit to *patients*, the visiting hour as it is with us is far preferable.

San Michele is highly spoken of, and is doubtless worthy of the

praise. It contains a House of Industry and of Correction. It is to be trusted that it is cleaner than San Spirito.

Florence, whose admirable and very extensive collection of anatomical models in wax is so well known to all medical travellers, and indeed *universally* visited, contains, I believe, only two or three hospitals. One of these. Santa Maria Nuova, is worthy of all praise for the remarkably excellent management exhibited. It is the medical school of Florence, and contained, at the time I saw it, 600 patients, having accommodations for 400 more. The cabinet of pathological and anatomical specimens, although small, contained many very good pieces: the skeleton of a child, with the bones of the skull pushed widely apart by hydrocephalic effusion, the head being enormous—I believe larger than any one I have seen; many specimens of excessive distortion of the spinal column; some wax models of tumors, &c. &c. In a small cabinet are preserved the pieces of the human body *petrified* by *Segato*. There were portions of the liver, the brain, the intestines; also the organs of animals. You doubtless have heard of the *table-top*, inlaid with petrified pieces of this nature; it, also, is kept in this cabinet.

The hospital is remarkably airy, neat, well arranged, and has an air of great comfort; the different attendants are exceedingly polite, and every part of the hospital was shown with great readiness, and *pride*, too, as I thought. In the midwifery department are many separate rooms, in which the beds were very clean—the nurses neat, and looking quite good-natured. There is a room for delivery, and others for those affected with after troubles. In this department was shown to me a bed different in construction from any I happen to have seen; it has, about one-third of the way from its head, a slight elevation (continued, of course, *to* the head;) beneath the pelvis an aperture sufficiently large for the issue of matters from the genital organs; not large enough to interfere with the proper support of the body. Besides these things, there is a *succession of cushions*, to regulate, at pleasure, the position of the woman, and two cranks or handles (moveable or fixed, at pleasure,) by which the woman supports herself while undergoing the contractile efforts of the womb. If I remember right, the elevated portion at the head of the bed did not admit of graduation; I may be mistaken in this, however, as it would seem that it *should* and might easily.

The splendor of some of the buildings now devoted to hospitals in Italy is quite striking. In point of architecture, and, often, internal decoration, there probably is nothing of the same destination that equals them.

At Venice, the building known as the Scuola di San Marco is now a portion of an *immense* hospital, the remainder of which is formed out of the adjoining convent of the Dominican and the Franciscan friars. It is really a *long walk* through this enormous building, which contains a handsome church and a smaller chapel also within its walls. The arrangement and planning of the wards, beds and appurtenances, is most excellent—plenty of air, and evidently great

attention to cleanliness. The lunatic wards are in excellent condition —and so, as to comfort and attention, are the unfortunate inmates. This, I believe, was one of the first institutions to abandon the restraint system. We entered the large room which contains the greater number of lunatics. Very many were working in one way or another; some came and gazed upon us, with not an *idiot*, but a *mischievous leer*, (this was the female ward;) only one was at all violent. She rushed towards us from the farther extremity of the hall, uttering a torrent of words in a loud tone, and brandishing her *knitting work!* I looked sharp at the *needles*, but she, on arriving where we stood, stopped a moment, and then darted to a seat, where she continued scolding. But the physician of the establishment soon entered, and going to her, took her hands in his, and saying a few words she was quiet as if by magic. Some two or three more were *wild*, but not violent; every part of this establishment seems admirably managed.

In the sick wards there is suspended over the head of each bed the name of the disease under which the individual is laboring.* I noticed a goodly crop of *bronchitis*, many cases of pericarditis, several also of intermittent fever: in the surgical wards one case of spina bifida; abscess, fracture, &c. At the head of each bed also hangs a ticket, containing name, profession, age, dates, symptoms, internal and external remedies, &c. &c.

I should *think* that more medicine was given internally in the Italian hospitals than in the French—a supposition which may have some slight confirmation in the different *size* of the *spaces* allotted to *external* and *internal* remedies in the ticket alluded to. A very formidable, but exceedingly good-looking, apothecary's shop is located, sentinel-like, near the entrance to the wards. The remark above made in reference to the finish and ornament of some of the Italian hospitals, applies in its full extent in this case: an author, speaking of the building, says—"The external architecture of its elevation is singularly fanciful and elegant; Byzantine richness blending itself with the grace of classical architecture, combinations defying all rules, but productive of a most magical effect. The carved work of the ceilings is, in many of the rooms, peculiarly beautiful; the contrast and effect are singular and striking in glancing from the rich and varied ornaments above and around, to the pallid countenances and paraphernalia of the sufferers stretched beneath."

At Milan, the "Ospedale Maggiore" is a noble establishment; a *donation* of the site of an ancient palace by Francesco Sforza in 1456 was its commencement. The front is 800 feet in length; the writer of Murray's Guide Book speaks of the Gothic portion of the building as "magnificent." Besides this fine institution, there are the Lazaretto and the Ospizio Trivulzi, the latter styled by the same writer a "noble monument of pious charity," containing 600 inmates, all over 70 years of age, well fed and clothed, and permitted once a

* This I have not noticed elsewhere in Italy.

week to visit their friends. The Lazaretto, now disused, except in some portions for small shops, is in the form of a square cloister, *one quarter of a mile* on each side in length; in the central square is a chapel. A fine crop of hay had been made, and lay spread upon the turf; men and women in some parts of the square still turning it. The long, cloistered arcades, are quite striking. The Trivulzi I have not visited.

At Genoa, the great Poor House is well worth seeing; clean, and well administered; its church, Santa Maria, contains an invaluable work of Michael Angelo. Beside this, are the Ospedale del Pammatone, and the Deaf and Dumb Institution; the former again confirming the remark made in regard to the ornate appearance of many of these institutions.

I remain respectfully yours, &c.,

Wm. W. Morland, M. D.

Syrian Medical Practice. Mode of Remunerating Medical Practitioners.—The physician of the late Lady Hester Stanhope gives the following account of the state of medical practice in Syria. He was called in to attend the son of Ahmed Bey. "There were three physicians present—a Turk, and two Christians. The boy was about thirteen or fourteen, ugly, of diminutive stature, and somewhat humpbacked. He was labouring under anasarca, consequent on a long intermittent fever. After examining him, I said I saw no reason to doubt the possibility of curing him. I was then asked how I would do it, which I declined telling; for I had no one but my servant for an interpreter, and the little Italian which he knew made it impossible to explain my intention clearly. The Bey told me that nothing had been left unattempted which the faculty of the city could think of. His son had been sewed up in a sheep's skin, fresh from the warm carcase: he had taken pills made of powdered pearl: he had lived for six days on nothing but goats' flesh: he had had pigeons' skins put hot to his feet, but all had proved unavailing! I merely observed, that these remedies might have much merit in them, but that the practice of medicine in England was somewhat different, and if he wished me to prescribe, my first condition was that I should not be controlled by any body. After some conversation, I went away. About three hours afterwards I was summoned again, and desired to act as I chose. I was fortunate enough to restore the boy to perfect health; and the father signified to me that he would thank me in the Eastern way. On an appointed day, I was conducted to the vestibule of the bath, where Suliman Bey, attended by half a dozen servants, awaited my coming. We undressed and entered the bath, having each a silk apron on. About an hour was consumed in the ceremonies of shaving the head, washing, depletion, &c., after which he returned to the dressing-room, where we were enveloped in embroidered napkins, and lay down to repose. Pipes, coffee, and sherbets were served. When it was time to dress, the Bey ordered

a page to invest me with the dress of honour, which had been prepared for me. It consisted of an entire suit of Turkish clothes, with a pelisse and three pieces of Damascus silks, not made up. The whole might be valued at fifty pounds."—*London Med. Gaz.*

A Case of Acute Glossitis. By Thomas Hamilton, M. D., of Thistledale, Cass County, Ga.—A month ago, a young gentleman whose residence is a little more than thirty miles from this, in the direction of Tennessee, and in a neighbourhood in which several deaths, it is said, have occurred from a disease prevalent there under the popular name of "black tongue," was unfortunate enough while on a visit in my neighborhood to receive a fracture of the thigh bone. The obvious inexpediency of any attempt to carry him home, together with my sympathy for him, moved me to offer him a room at my house, to which he was carried, under the eye of his intelligent physician. Within a few days afterwards, his black man, John, came down from home to wait on him, and this he continued to do without attention to any other business for the last three weeks. John's age is about twenty-five years, he is by nature cheerful and active, has a sound constitution, and was in good health till Tuesday, the 17th of this month. At 11 o'clock in the forenoon of that day, he was heard to speak of a slight smarting sensation in his tongue, affecting mostly its right side, and which he had just then for the first time perceived. Within four hours afterwards, or by three o'clock in the afternoon, this sensation had assumed the character of a constant pain, attended by a sense of heat; and notwithstanding neither his pulse nor skin as yet indicated fever, it was thought proper to prescribe a dose of sulphate of magnesia, which he took without delay. In the course of the afternoon, and before the operation of the salts, headache came on with increased secretion of saliva and a sense of burning in the skin on the right side of his neck, his description of which agreed with that of erysipelas. Neither swelling nor hardness anywhere appeared except in his tongue, which was now perceptibly thickened and somewhat rigid; it was, too, a little more florid than is usual in the healthy state, yet it was moist and but slightly furred. At 7 o'clock of the next morning, his medicine having produced three or four alvine evacuations, his headache was abated and he thought his case in other respects no worse. His pulse, however, had begun to indicate a febrile movement, his articulation was impaired by increased rigidity and tenderness of his tongue, and a long cylinder of viscid saliva hung from his mouth. This body of saliva, which he was unable to discharge by the action of his tongue and lips, he occasionally removed with his hand, but by an active secretion it was immediately reproduced. By one o'clock in the afternoon the case had made fearful progress; the patient's skin was hot and dry, his pulse had acquired a firmness and frequency much above the healthy standard, and the hardness and tenderness having extended from his tongue to all the parts embraced by the rami of the inferior maxillary and the hyoid bones, he was without the power of articulating a word, and at every breath he groaned.

Decisive treatment was now determined on: accordingly, a vein was opened from which the blood was permitted to flow in a large stream until relaxation was denoted by a weakened state of the pulse, anxiety, nausea and sweating. Half an hour afterwards the anxiety and nausea were carried off by the act of vomiting, after which the patient rested quietly. At 5 o'clock, which was the fourth hour after the time of the bloodletting, the case was again examined, when the pulse was found to be recovering its firmness and the skin to be losing its softness. With a view to restrain the circulation steadily and to maintain the softness of the skin, it was deemed expedient to employ a nauseant in aid of the lancet: accordingly the patient was turned upon his back, his head a little elevated, and half a grain of tartar emetic dissolved in a spoonful of water, was, with some difficulty, conveyed into his stomach. Within twenty-five minutes after the administration of this remedy, its effects appeared in a general perspiration, a reduction of the pulse, nausea and restlessness: and the lapse of an hour brought about an effort to vomit, by which these were entirely removed. After this, the state of the pulse and skin continuing good, medication was omitted and the patient, free from pain, rested comfortably through the night. At 7 o'clock of the next morning, he was so far advanced in convalescence as to need no other prescription than that of rest and a gruel diet.

Having read but little, and seen less of diseases for the last ten years, I must leave it to others to decide what affinity, if any, this case bears to the Western epidemic commonly called the "black tongue." Yet judging from the rapid progress of the symptoms and the intensity of the inflammation, I may hazard the opinion, that the tendency was to a termination in gangrene, and that nothing was wanting to have made this a case exhibiting a livid appearance of the tongue and contiguous parts, than delay in the use of proper remedies till it should have been too late for them to avert such a termination. Most probably it would have been a case of black tongue, indeed, and one well calculated to discredit the lancet, if the patient in the dread of treatment or hope of amendment, had deferred the use of that remedy until symptoms should have supervened, suggesting the name for his disease.

It is well remembered to have been said by the "greatest and best" in the profession of medicine, that the lancet is the "magnum bonum Dei:" and although this truth will survive the wreck of many an innovation in theory and practice, yet its full benefits can never be realized until it comes to be generally known, that the efficacy of bleeding depends upon its early employment, as cases like this tend to show.—*Southern Med. and Surg. Journ.*

A few cases illustrative of the ill effects of Onanism. By Edward L. Baker, M. D., of Fort King, Florida.—Onanism, or the sin of Onan, is from a perverted passage in the Pentateuch. The discharge of semen from a preternatural stimulus is the vice, it is said,

of the solitary monk, and perhaps, of other recluses, to whom more natural enjoyments are denied. It is a habit of the most destructive tendency, enervating, in the highest degree, both the body and mind, as the following cases will illustrate. Nature seems to have fixed a strong mark on those disposed to every unnatural enjoyment, however secret their practices may be, and so indelible is this mark, that they cannot escape detection from that *tact* which has been peculiarly distinguished by the term of *sensus medicus.* In general, the countenance is sallow, with a peculiar dejection in the look. The voice is hurried and unsteady; the face sometimes covered with dark coloured blotches or flushed, particularly when looked upon full in the face, and the whole frame displays a peculiar debility. The dejection, at times, almost amounts to insanity, and every effort appears to threaten instant death. The tremor and apprehension prevent the natural enjoyments, by which they might be otherwise weaned from this destructive habit; and the whole life is alternated with doubts, apprehensions and despair. Unfortunately, the practice is seldom forsaken—at least, we have reason to think so.

The apprehensions of discovery and the despair, render these unfortunate persons the dupes of quacks. Regular practice exhausts the whole class of tonics and stimulants with little effect. The warm balsams, of which the quack medicines consist, are either rejected from the hands of the physician, or not continued a sufficient time; and even our best remedies, do not fix the imagination so strongly as the Solar tincture or the balm of Gilead. It is probable, if not too long continued, a prudent marriage might recover the patient; but it would be unjust, cruel, and impolitic, to condemn a healthy young woman to the shadow of a man. I will now give the report of a few cases.

Case 1st. A man aged about 30, was brought from a distance and placed under my care. I found him in the following situation: A very large and ample frame, his muscles soft and flabby, and very much emaciated; he had no appetite, almost loathed food of all kinds, had no energy either of mind or body, but would sit in one position nearly all day; he appeared even reluctant to answer in monosyllables, felt convinced that he could not live, was troubled at times with great thirst for cold drinks; his cheeks were very much flushed, could not look in the face even his most intimate friends, but always inclined his eyes downwards, complained at times, particularly after eating, (and that too of the most simple articles of food,) of pyrosis. Pulse frequent, but weak; almost constant cephalalgia, with tenderness of epigastrium under pressure.

I was led to believe his a case of genuine dyspepsia, or chronic inflammation of the stomach, and treated it accordingly. Sometime, however, after this, I accidentally discovered from a friend of his, that he had been addicted to the most disgusting practice of secret pollution from his boyhood. I then adopted a moral course of treatment, endeavoured to reason the case with him, informed him that

this was the cause of his disease, that it was this that was killing him, and that the only chance for his life, was for him to leave off this most diabolical habit. I even went so far as to pustulate the penis with the ung. tart. antim., but this did not prevent him, and he died in about ten days after.

Case 2d. A physician of considerable celebrity had a negro man placed under his care: he kept him in his yard, that he might watch more closely the effects of his medicine. The patient was very much emaciated, constant cephalalgia, palpitation of the heart, pain and some swelling, with extreme weakness in the joints of the inferior extremities—he was compelled to use crutches—and, as in the former case, was very much dejected, and was firmly of opinion that he would die; he was treated by his physician for disease of the heart, and also for spinal irritation. After some time, finding he made no progress in relieving his disease, he requested me to see him. I at once, and without hesitation, (after examination and observing his countenance) stated to my friend that I suspected him of being addicted to onanism. He accordingly took care to watch him, and detected him in the act. He at once told him he would be compelled to castrate him unless he would quit this practice. He also applied the ointment as used in the preceding case, and gave tonics, stimulants, cold bath, &c. This patient ultimately recovered, and is now a healthy and valuable servant. He has since acknowledged to his physician that he had been addicted to the practice for seven or eight years, and that he not unfrequently operated in this manner eight or nine times in the course of the twenty-four hours. Both of the above patients complained of pain in the occiput and were very nervous.

Case 3d. The following case was related to me by a physician who had been intimate with the young man. This friend, he says, had received a good education from a father who was very wealthy and stood high in society. The young man, however, became addicted to this vice, was gloomy and taciturn, shunned his friends, and indeed all society, sought solitude, and his eyes were always cast down—in fact he was to all appearance miserable. His father one day mentioned to him that, at such a time he would give him a certain amount of money, for the purpose of commencing business for himself, and that he would render him all the assistance in his power. The idea of being compelled to mingle in society (as he would have been forced to do if he went into business,) prayed so much upon his mind, that before the day arrived for him to receive his gift, he committed suicide.

I am acquainted with three idiots, and in each of the cases, it is a fact known to all who are acquainted with their histories, that they are daily addicted to this vice.

I should be happy to hear from others on this important subject—I feel convinced that the great majority of the cases of chronic dis-

eases which we meet with in practice, can be traced to this cause. There has been so little written on this subject in this country, that physicians rarely suspect a case of this kind unless they are made acquainted with it by some accidental occurrence.—*Ibid.*

Strangulated Inguinal Hernia of a large portion of Omentum, cured by an Operation. By Paul F. Eve, M. D., Professor of Surgery in the Medical College of Georgia.—On the 17th of last August, I was requested by Drs. Hanson and Jones, of an adjoining county, to see with them a patient labouring under strangulated hernia. Mr. G. S—— is about 44 years, weighs 185 lbs., and is only five feet six inches high: his habits are very good. In 1841, four years ago, while lifting a cotton bale, "he felt something give way in the region of the right groin." On Thursday, the 14th of August, when sowing turnips, he suddenly experienced pain low down in the right side of his abdomen. He took soon after this a dose of salts, which acted freely upon his bowels; but as no relief was thus obtained, Dr. Hanson was sent for, and reached him early on Saturday morning the 16th. Mr. S. was now freely bled, and means employed to reduce a hernia found existing in the right inguinal region. Reduction not being effected, Dr. Jones was sent for, and arrived the evening of the same day. All ordinary means failing to restore the protruding viscus, including tobacco injection, which evacuated the bowels freely, I was sent for at 2, A. M., of the 17th, and saw the patient a few hours afterwards. At half past 8 o'clock, having exhausted taxis, &c., as my two professional friends had already done, the operation was decided upon.

The tumour extended from the external abdominal ring to the bottom of the scrotum on the right side. It was much distended, and the patient complained of great pain at this region. In making the incisions, the *arteria ad cutem abdominis*, was found to require the ligature, and when the sac was opened, a saucer was employed to catch the bloody serum which flowed out. Of this there was more than a half pint, which, together with a portion of omentum, about the size of a man's fist, formed the hernial tumour. There were no adhesions to the sac. The internal abdominal ring was now divided by carrying the edge of Sir Astley Cooper's knife directly upwards, and efforts made to return the protruding portion of omentum. From the induration of the part presented at the internal ring, success did not attend this attempt at reduction. The knife had again to be resorted to, and the ring greatly enlarged by free incisions, and then the omentum only returned by prolonged and forcible manipulations.

After the operation, we concurred in the opinion that our patient, in all probability, would not long survive it. Forty drops of laudanum were prescribed, also absolute diet and quietude. Upon opiates, however, was placed the greatest reliance; and Dr. H., the family physician, kindly consented to remain twenty-four hours with Mr. S.

On the 19th, two days after the operation, I was much gratified to receive a very favourable report from our patient. His sufferings had gradually diminished, his pulse was at 88, and his wound which was now dressed, found to be doing well. We even placed him on another mattrass, while his bed was made up, and his linen changed. He had yet had no evacuation from the bowels, but had passed some flatus. An emollient enema was prescribed, should he be troubled in the bowels during the day, which if not moved on the morrow, were then to be stimulated to action by an injection.

The 1st September I heard Mr. S. was improving, and on the 6th of October, he went eleven miles to vote at our State election. The ligature to the small artery was not removed until the 16th of this month, and during November last I met him in our streets attending to his business.

The soft pad of a truss, with rather a weak spring, was recommended to be worn, in this case, for a few months.—*Ibid.*

Swallowing of Pins.—A maid servant, while engaged in hanging up some curtains, accidentally swallowed a pin. Dr. Neumann, who was immediately sent for, found her pale from fright, and in a state of general tremor. She did not complain of pain in any part, and as she swallowed solids and liquids withont difficulty, Dr. N. persuaded her that she had been probably deceived by her sensation. Her cheerfulness soon returned, and she enjoyed her usual health.

About a year afterwards, Dr. Neumann was suddenly sent for to remove the pin. On his arrival, he ascertained that the female had for some days felt an itching pain in her left side, which she attributed to the presence of the pin. A small pustule was observed over the region of the descending colon, and in this was the pin with the point projecting outwards. It was easily removed by the forceps, and was found to be perfectly clean. It had thus been in the alimentary canal for a year without giving rise to any unfavorable symptom.—*Chem. Gaz., from Casper's Wochenshrift.*

Case of Peritonitis—Attacks of Shivering—Inflammation of the vena portæ—death. Remarks on Inflammation of the portal vein in general.—The patient was a man 26 years of age. When admitted into the hospital, he was complaining of a violent pain in the epigastrium; it shifted its locality a little in different positions of the body. Pyrexia, diarrhœa, great thirst, and a high-coloured state of the urine present. The case was regarded as one of peritonitis, and treated accordingly. On the third day, there was a well-marked shivering fit, followed by heat, but not by perspiration. Schoenlein says, that he suspected the commencement of some mischief in the portal system of veins. The rigors returned at irregular intervals; on some days there were several attacks. The treatment consisted in the inunction of mercurial ointment, the application of fomentations, and the internal use of calomel; the patient was suddenly and rather severely salivated. Dr. S. assures us that, in several cases of lesion of the

portal system, he has observed decided benefit from the use of saline baths, (two pounds of common salt, and one ounce of muriate of lime being added to a usual bath;) and he accordingly ordered them for this patient. The icteric and febrile symptoms, however, continued to exist, and indeed gradually became worse. The patient died in the course of about two months.

Dissection.—On opening the abdomen, an abcess was found about midway between the umbilicus and the point of the sternum (the seat of the pain during life;) it was situated between the layers of the meso-colon. The abscess extended backwards in the direction of the vena portæ. This vessel was found to be considerably enlarged, and, when laid open, to be filled with pus. The matter extended into its ramifications, the inner membrane of which was observed to be decidedly thickened. The parenchymatous substance of the liver was not affected.

In his comment upon this case, Mr. Schoenlein directs the attention of the reader to that aphorism of Hippocrates, wherein it is said—"Those who suffer with violent fever rarely recover, if a shivering occurs on the sixth day." Our author regards the occurrence of this phenomenon, under such circumstances, to be a probable indication of the commencement of phlebitis somewhere. As to the *symptoms of inflammation of the portal vein*, one of the most constant is (as far as we can well judge from our hitherto limited experience,) a heavy oppressive pain about midway between the point of the ensiform cartilage and the umbilicus, and often, it may be, extending backwards in the direction of the spine; it is always increased by firm pressure. The usual signs of the biliary secretions being more or less imperfectly performed are generally present. Occasionally blood is passed with the stools: indeed, Dr. S. is of opinion that the disease of melœna is not unfrequently connected with the lesion which we are now describing. The accompanying fever is usually violent,—the *causus* of the ancient writers. Should the inflammation terminate in the formation of purulent matter, the fever will necessarily assume more of a typhoid, or perhaps of a hectic character. If, in place of pus, plastic lymph is effused into the cavity of the inflamed vessels, the superficial abdominal veins are apt to become very considerably dilated, and the spleen also to be so much distended that, in the course of a few days, it may be felt outwardly to be excessively enlarged. When this is the case, we may expect to have all the usual symptoms of spleen disease: viz. tendency to syncope, confusion of sight, hæmorrhage from the left nostril (singular precision)! and evacuation or vomiting, and, consequently, hæmorrhage from the bowels, which is almost always accompanied with extreme prostration. In one case, which has been described in Schmidt's Journal, (1840,) Schoenlein found, upon dissection, all the veins of the portal system quite obliterated.—*Med. Chir. Review, from Schoenlein's Clinical Lectures.*

Wound of the Penis from the Bite of a Horse.—The man to whom this accident happened is now a patient under M. Lenoir, at the Necker

hospital. Although protected by the blouse and trousers, the animal had seized the penis with such force between its teeth, as to inflict a circular wound like that which would have resulted from the use of a cutting instrument. The skin was indeed entirely detached from the root of the organ. M. Lenoir at first thought that he might heal the wound by adhesion, but gangrene took place, and the corpora cavernosa were laid bare. A gangrenous spot had also appeared in the scrotum, which had become much stretched by the violence. Extravasation of urine had been avoided by the introduction of a catheter.—*London Med. Gaz., from Gaz. des Hopitaux.*

Liabilities of the muscle in Disease. Of epidemic influences that disturb the general health, the voluntary muscles take early and constant notice; for of life, in all its varieties of action, they are the truest, readiest, and most delicate exponents. Rheumatism, influenza, diarrhœa, illness of whatever kind that is "going about," prevail, by acknowledged symptoms, in the locomotive structures of the body. All the animal blights, electrical, contagious, miasmatic, are necessarily muscular in their development. Observe your patient, then, from first to last, as he stands, walks, sits, or lies; note well his changes of posture; see what he does with his hands; watch his features at their several periods of action and repose; compare them in their separate play. Nothing, be assured, is more truly clinical than such indication, by impaired contractility of disorder in the flesh. Remember, without disparagement of the medicine that works by dissection, analysis, and the microscope, that while engaged in the contemplation of these muscular symptoms, we have before us nothing less than the actual visible operations of disease. Observing them, we have under our wide, natural eye, not the mere segments of perverted, fast-decaying structures, not the shadowy, lenticular, spectra of a discharged and damaged fluid, but organs, living and complete, in active relation, through their function, with the blood and all else that is vital in the body. Here, in the Queen's ward, is a woman, (Mary Mc B——,) who tells us plainly, though not in words, of fast improvement and recovery. Near-sighted as I am, I see already, as we approach her bed, that since yesterday she is better. I see it, and at once, in the shape of her features; I know it by the very "wag of her eyelid." In this case, the buccinator and the levator palpebræ muscles express as much of encouragement as could be spoken by the mouth and larynx. Try and remember this patient as we knew her on March 11, when she was first admitted, scarcely conscious, exhausted, inarticulate,—how she lay, and whined, and stared. Day after day we found her stretched, as if by palsy, on her back; her knees were never bent; her hands moved but seldom from her side. In this unnatural repose of all the voluntary muscles, we could not fail to recognise the character and intensity of the disorder. The influence that operated to the prejudice of the contractile function, was, in this instance, atmospheric, and of the

season. It is a case, now convalescent, of the spotted epidemic fever.—*London Lancet.*

Lunar Caustic in Burns.—During the autumn of 1840, while the writer was performing a set of experiments in chemistry before a class, a burn was accidentally received in the following manner. In getting out some phosphorus to light a spirit lamp, a little of it dropped into a box of mineral specimens under the table. Being unable to find it readily it was left in the box and forgotten until it got into a blaze. To save the minerals from injury, I attempted to run my left hand under them and the phosphorus and throw all out together; but instead of this, I ran the index and middle finger directly into the blazing phosphorus. The piece, about an inch long, stuck to my fingers, and before I could plunge them into the pneumatic trough, it completely roasted them from their extremities to the second joints. The pain exceeded in intensity any thing that ever I suffered.

But silver and its compounds being the subject of the lecture, there was fortunately a solution of the nitrate on the table, and as soon as reflection returned I plunged my fingers into the caustic liquid. Relief was prompt, and so great that in a few minutes the lecture was resumed. It was then about three o'clock, P. M.; there was slight pain in the fingers till 9, when I fell asleep and suffered no more from it afterwards. Hard crusts of sphacelus shielded the diseased parts till they were thrown off by reproduced flesh beneath. My fingers are now as perfect as ever in shape and motion, and no one could discover a cicatrix.—*Dr. Gordon in Western Lancet.*

Dr. Labat, principal physician to the Shah of Persia, and surgeon-in-chief of his armies, who has recently arrived in Paris, attained his position in Persia by curing the Shah of gout, to which it appears he was much subject. He was appointed successively mirza, bey, and khan, and ranks immediately after the princes of the blood royal.—*Med. Gaz.*

The sum of 48,000 francs has been demanded from the government by the dean of the Parisian faculty of medicine, to construct a ward in the proposed Hôpital des Cliniques, to contain twelve beds, for the use of sick medical and law students. The conseil academique, and the conseil royal de l'université support the demand.—*Ib.*

The cholera, it appears, was introduced into Persia, by the caravans of Steret into the Khorasan, and has passed thence southward to the Kerman, and onwards to the marshy plains of Messendheran and Ghilon, where its ravages were very extensive. At Mesched one-third of the population has perished; and the population of entire quarters has disappeared at Teheran and Ispahan.—*Ib.*